

**SEQUENTIAL METHOD FOR SELECTING THE
BEST PROBABILITY MODEL FOR EQUITIES**

BY

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**Department of Business Administration
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Sequential Method for Selecting the Best Probability Model for Equities

BY

Triyanti Indrawati

**A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University
of Manitoba in partial fulfillment of the requirements of the degree
of
Master of Science**

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Abstract

If market-timing approach is used in investment strategy, the information on how market will perform in the next time period is needed. There are periods of time when equities perform much better than risk-free investment such as treasury bills. However, there are also periods when treasury bills perform better than equities. This thesis suggests a number of reasonable models for estimating the probability of equities outperforming treasury bills and for modeling the behavior of stock returns. Rosenbloom's sequential method (1999) is modified and used in order to determine which of the models is the best. This study has identified as a potential tool for selecting the best probability model for estimating the probability of equities outperforming treasury bill.

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Table of Contents

ABSTRACT	II
ACKNOWLEDGEMENT	III
TABLE OF CONTENTS	IV
LIST OF FIGURES	VII
LIST OF TABLES	VIII
CHAPTER 1	1
INTRODUCTION	1
1.1. STATEMENT OF PROBLEM	1
1.2. OBJECTIVES OF THE STUDY	2
1.3. METHODOLOGY	2
1.4. OUTLINE OF THIS REPORT	3
CHAPTER 2	4
SEQUENTIAL PROBABILITY RATIO TEST (SPRT)	4
2.1. GENERAL	4
2.2. THE BRIER SCORE	5
2.3. WALD'S SPRT	6
2.4. ROSENBLOOM'S SEQUENTIAL METHOD (RSPRT)	8
2.5. MODIFICATION OF THE RSPRT	10

CHAPTER 3	13
MARKET TIMING	13
3.1. BACKGROUND	13
3.2. EXISTING MODELS	14
3.3. PROPOSED MODELS	24
CHAPTER 4	25
PROBABILITY MODELS FOR EQUITIES	25
4.1. GENERAL	25
4.2. DESCRIPTION OF SELECTED MODELS	25
4.3. PROBABILITY DISTRIBUTIONS FOR STOCK RETURNS	26
4.3.1. NORMAL DISTRIBUTION FUNCTION	26
4.3.2. LOGNORMAL DISTRIBUTION FUNCTION	27
4.4. THE PROBABILITY OF EQUITIES OUTPERFORMING TREASURY BILL	28
4.4.1. CONSTANT PROBABILITY MODEL	28
4.4.2. MOVING PROBABILITY MODEL	28
4.4.3. LOGNORMAL PROBABILITY MODEL	29
4.4.4. RELATIVE FREQUENCY-BASED PROBABILITY MODEL	30
CHAPTER 5	32
RESULTS	32
5.1. A TEST OF PROBABILITY DISTRIBUTIONS FOR STOCK RETURNS	32
5.2. A TEST OF THE PROBABILITY OF EQUITIES OUTPERFORMING TREASURY BILL	35

CHAPTER 6	42
CONCLUSIONS AND FUTURE WORK	42
6.1. CONCLUSIONS	42
6.1. FUTURE WORK	43
REFERENCES	44
APPENDICES	46

List of Figures

Figure 3.1: The Assumed Predictive Process

15

List of Tables

Table 5.1: Posterior Probability of being best

38

Chapter 1

Introduction

1.1. Statement of Problem

Equity markets fluctuate. There are periods of time when equities perform much better than risk-free investments such as treasury bill. However, there are also periods of time when treasury bill perform better than equities. An investor with perfect information would switch from equities to treasury bill if he/she knew that equities would underperform treasury bill. Conversely, an investor with perfect information would switch back to equities if he/she knew that equities would outperform treasury bill.

Unfortunately, investors do not have perfect information. However investors will switch between equities and treasury bill based on their belief on how markets will perform in the next time period. This often referred to as market timing.

Recently Larsen and Wozniak (1995) developed a model to estimate the probability of equities outperforming treasury bill in a given month. Advocates of market timing would be able to use this model in order to decide whether to switch between equities and treasury bill.

However, are there other models for estimating the probability that equities outperform treasury bill? This thesis will suggest a number of alternate methods of estimating this probability.

Rosenbloom (1999) provides a definition of a “best” model in this context as well as a sequential algorithm for selecting the best model. Since there is a great deal of data

available with respect to performance of equities and treasury bill, there is no need for a sequential algorithm. Rosenbloom's sequential method (1999) is modified in order to determine which of a number of reasonable models for estimating the probability of equities outperforming treasury bill in a given month is best.

1.2. Objectives of the Study

The objectives of this present study are as follows.

- To determine which of several models for estimating the probability of equities outperforming treasury bill is best.
- To determine which of the two probability density function models for stock returns is better.
- To suggest a number of alternate ways of estimating the probability of equities outperforming treasury bill in a given time period.
- To compare performance of the models that provide probabilities of stock returns outperforming treasury bill rate. This comparison enables one to select the best model among the chosen models. The models considered in this thesis are constant probability, moving probability, lognormal probability, relative frequency-based probability, and regression-based probability of Larsen & Wozniak.

1.3. Methodology

The data used in this thesis are value-weighted and equal-weighted returns from combined NYSE/AMEX and Nasdaq, the S & P 500 composite returns, and the 3-Month T-Bill rates. Collected data are from January 1926 to December 1997 for the stock

returns, and the 3-Month T-Bill rates are from January 1934 to December 1998. The first 32 years of data is used to construct the model and then use the latest 32 years of data to run out-of-sample test. The technique used to calculate that the probability of stock returns outperforming T-Bill rate are constant probability, moving probability, lognormal probability, and relative frequency-based probability. After calculating these probabilities, The SPRT approach developed by Rosenbloom (1999) was applied.

1.4. Outline of this Report

This report consists of six chapters, the first of which is this chapter: Introduction. Chapter 2 of this report provides the theoretical background of SPRT and its modification. The literature review of market-timing is presented in Chapter 3. Chapter 4 presents the probability models for equities. Results are presented in Chapter 5 and this thesis is ended by Chapter 6 comprising conclusion and recommendation for further research.

Chapter 2

Sequential Probability Ratio Test (SPRT)

2.1. General

Rosenbloom's sequential method (1999) is used to determine which of a number of reasonable models for estimating the probability of equities outperforming treasury bill in a given month is best. This method uses the philosophy of sequential probability ratio test (SPRT). The SPRT is originally developed by Wald (1947). Main feature of the method is that the number of observations required is not determined in advance but is dependent on the outcome of the observations previously made. The SPRT approach was initially developed for the purpose of testing statistical hypotheses. By comparing the results of the approaches that use a fixed number of observations with those of SPRT, on average, the SPRT approach saves 50 % in the number of observations over the fixed number based approaches (Wald, 1947). Wald's sequential probability ratio test (SPRT) is a natural technique for choosing between two multinomial parameter estimation procedures. Brier (1950) developed a quadratic scoring rule to select the best of multinomial parameter procedure in meteorological services that provide probability of precipitation (PoP) forecasts. Rosenbloom's sequential method (1999) selects the best of k multinomial parameter estimation procedures when only one observation per the k estimation procedure is possible but the k estimation procedures can be repeated many times. In this thesis, Rosenbloom's sequential method is modified since the data is not obtained sequentially. From now on, we call Rosenbloom 1999 approach RSPRT. The RSPRT approach (Rosenbloom, 1999) is applied to the problems that involve discrete

random variables. We extend the procedure in this thesis to continuous random variables.

In the next section, the Brier score (Brier, 1950), SPRT developed by Wald (1947), the RSPRT like approach (Rosenbloom, 1999), and a modified procedure are presented.

2.2. The Brier Score

The Brier score (Brier, 1950) is used to select the best of multinomial parameter estimation procedures in meteorological services that provide probability of precipitation (PoP) forecasts. Consumer of meteorological services would like to select the most accurate service. The accuracy in PoP forecasts is measured by a quadratic scoring rule developed by Brier (1950). The Brier score BS^* is given by

$$BS^* = (1/T) \sum_{t=1}^T (p_{1,t} - x_{1,t})^2 \quad (2.1)$$

Where T = sample size of PoP forecasts

$p_{1,t}$ = the PoP forecast for the t-th occasion

$x_{1,t}$ = precipitation on the t-th occasion, equals one if there was precipitation and zero otherwise.

The range of BS^* is between 0 and 1 with 0 representing the best score and 1 the worst.

In weather forecasting BS^{**} denotes the average Brier score for a constant forecast of the climatological probability of precipitation. Murphy and Brown (1984) define a skill score, SS , of forecasting procedure by

$$SS = 100 \left(1 - \left(BS^* / BS^{**} \right) \right) \quad (2.2)$$

SS represents the percentage improvement in the average Brier score for the forecasts of interest over the average Brier score for the corresponding climatological forecasts. The drawback of the skill score and Brier score is that they do not provide any measure of statistical significance.

2.3. Wald's SPRT

SPRT is first developed by Wald (1947). Wald addressed many aspects of the theory and application of SPRT; including a brief review of the fundamental concepts for supporting SPRT, such as random variables, probability distributions, and statistical hypotheses. Moreover, mathematical proofs for supporting SPRT is presented. Wetherill (1966) reviews and presents the extensions of the Wald's SPRT. Application of SPRT to the problem of testing more than two hypotheses has been addressed in the work of Wetherill (1966). Although almost all aspects about SPRT have been covered in these two books; Wald (1947) and Wetherill (1966), the description of SPRT is concisely given by Kendall and Buckland (1960):

"A sequential test for the hypothesis H_0 against an alternative hypothesis H_1 , due to Wald (1944). At the end of each stage in the sampling the probability ratio p_1/p_0 is computed where the suffixes 0 and 1 refer to the null and alternative hypotheses respectively and p is the (known) probability function of all sample members so far drawn. Then if $B < p_1/p_0 < A$, the sampling is continued to another stage. But if $p_1/p_0 \leq B$, the null hypothesis (H_0) is accepted, and if $p_1/p_0 \geq A$, the null hypothesis is rejected and the alternative hypothesis (H_1) is accepted. The two constants A and B are determined by reference to prescribed requirements concerning the two types of errors made in testing hypotheses, the rejection of H_0 when it is true and the acceptance of H_1 when it is false".

As mentioned, Wald's (1947) sequential probability ratio test (SPRT) is a natural technique for choosing between two multinomial parameter estimation procedures. This

technique is designed for testing a simple hypothesis H_0 against a simple alternative hypothesis H_1 . Generally, the SPRT procedure can be presented as follows:

1. Two positive constant A and B are chosen ($B < I < A$). The constants A and B are to be determined so that the test will have the prescribed strength (α, β) . The strength (α, β) indicates whether a test may be regarded as more desirable than the other. The relations among α , β , A , and B can be found in Wald (1947).
2. At any stage m of the experiment, with data (y_1, y_2, \dots, y_m) , the likelihoods of the data under each of hypotheses, $L_0(y_1, y_2, \dots, y_m)$, and $L_1(y_1, y_2, \dots, y_m)$, are calculated, as well as the ratio

$$\lambda_m = \frac{L_1(y_1, y_2, \dots, y_m)}{L_0(y_1, y_2, \dots, y_m)} \quad (2.3)$$

The likelihood of the data means the probability that a sample y_1, y_2, \dots, y_m is obtained and given by

$$L(y_1, y_2, \dots, y_m) = f_1(y_1)f_2(y_2) \dots f_m(y_m) = p_{y_1,1}p_{y_2,2} \dots p_{y_m,m}. \quad (2.4)$$

3. If $B < \lambda_m < A$, the experiment is continued by taking an additional observation y_{m+1} . If $\lambda_m \geq A$ the process is terminated with the rejection of H_0 and the acceptance of H_1 . If $\lambda_m \leq B$ the process is terminated with the rejection of H_1 and the acceptance of H_0 .

2.4. Rosenbloom's Sequential Method (RSPRT)

The SPRT approach is further modified by Rosenbloom (1999). This modified version RSPRT is developed for selecting the best of k multinomial parameter estimation procedures. The term "best" is defined as follows (Rosenbloom, 1999):

Definition: An estimation procedure i^* will be selected the best of estimation procedures $\{1, 2, \dots, k\}$ at a significance level α (α is a parameter between 0 and 1, typically .10, .05 or .01) if the probability of estimation procedure i^* not being correct is below α (assuming one of estimation procedures $\{1, 2, \dots, k\}$ is correct).

Rosenbloom's sequential method (1999) is different from the original Wald's SPRT (1947) in terms of treating the hypotheses. Hypotheses are set up in the form procedure 1 is correct versus procedure 2 is correct. There is no prior reason to prefer one method over the other. The RSPRT algorithm for selecting the better of two estimation procedures can be described as follows:

1. A constant α ($0 < \alpha < 1$) is chosen. The value of α is between 0 and 1, ($0 < \alpha < 1$).
2. At any stage m of the experiment, with data (y_1, y_2, \dots, y_m) , the ratio

$$\lambda_m = \frac{L_{i^*}(y_1, y_2, \dots, y_m)}{L_j(y_1, y_2, \dots, y_m)} \quad \text{for } j \neq i^* \quad (2.5)$$

is calculated where $L_1 = L_1(y_1, y_2, \dots, y_m)$ and $L_2 = L_2(y_1, y_2, \dots, y_m)$ are the likelihoods of the data under each of the hypotheses and

$$L_{i^*} = L_{i^*}(y_1, y_2, \dots, y_m) = \text{Maximum} \{L_1(y_1, y_2, \dots, y_m), L_2(y_1, y_2, \dots, y_m)\}$$

(Note: There is no need to directly compute L_1 and L_2 . These numbers will become extremely small and subject to round-off error. However, it is easy to store L_1/L_2 and update this number with each new data point. Comparing the ratio with 1 will determine which one is L_{i^*} .)

3. If $\lambda_m < (1-\alpha) / \alpha$, the experiment is continued by taking additional observation y_{m+1} .
If $\lambda_m \geq (1-\alpha) / \alpha$, the process is terminated with the acceptance of H_{i^*} and the rejection of $H_j, j \neq i^*$.

With this approach the probability that H_{i^*} is true at least $1-\alpha$ (assuming either H_1 or H_2 is true) while the probability of rejecting the true hypothesis is below α . That estimation procedure i^* is selected the better estimation procedures $\{1, 2\}$ at a significance level α .

RSPRT algorithm for selecting the best of k estimation procedures is as follows:

1. A constant α is chosen. The value of α is between 0 and 1, ($0 < \alpha < 1$).
2. At any stage m of the experiment, with data (y_1, y_2, \dots, y_m) calculate the ratios

$$\lambda_{jm} = \frac{L_{i^*}(y_1, y_2, \dots, y_m)}{L_j(y_1, y_2, \dots, y_m)} \quad \text{for } j \neq i^* \quad (2.6)$$

Where $L_j = L_j(y_1, y_2, \dots, y_m)$ for $j = 1, 2, \dots, k$ are the likelihoods of the data under each of the hypotheses and $L_{i^*} = L_{i^*}(y_1, y_2, \dots, y_m) = \text{Maximum} \{L_j(y_1, y_2, \dots, y_m) \mid j = 1, 2, \dots, k\}$.

In practice, L_1, L_2, \dots, L_k are not computed to determine L_{i^*} . The reasons are: (1) these numbers will become extremely small and (2) they are subject to round-off error. However, the ratios $L_1/L_2, L_2/L_3, \dots, L_{k-1}/L_k$ are calculated and stored. These ratios are updated with a ratio of each new data point. At any stage, these updated ratios are compared with 1 to determine L_{i^*} .

3. If $1 + \sum_{j \neq i^*} (1/\lambda_{jm}) > 1/(1-\alpha)$, the experiment is continued by taking additional observation y_{m+1} . If $1 + \sum_{j \neq i^*} (1/\lambda_{jm}) \leq 1/(1-\alpha)$, the process is terminated with the acceptance of H_{i^*} .

The acceptance of H_{i^*} means procedure i^* is selected the best of procedures $\{1, 2, \dots, k\}$ at a significance level α .

2.5. Modification of the RSPRT

A modification of the RSPRT approach is required to deal with non-sequential data. In this thesis a long period of performance of equities and treasury bill data are available. This modification applies to both the procedures for determining the better model between two models, and for selecting the best model among several models. The modified procedure for selecting the better model between two models can be described as follows:

1. A constant α is chosen. The value of α is between 0 and 1 or ($0 < \alpha < 1$).
2. Collect data $\{y_1 \dots y_n\}$

Sequentially calculate the ratio

$$\lambda_m = \frac{L_{i^*}(y_1, y_2, \dots, y_m)}{L_j(y_1, y_2, \dots, y_m)} \quad \text{for } j \neq i^*, \quad \text{for } m = 1, 2, \dots, n \quad (2.7)$$

where $L_1 = L_1(y_1, y_2, \dots, y_m)$ and $L_2 = L_2(y_1, y_2, \dots, y_m)$ are the likelihoods of the data under each of the hypotheses and

$$L_{i^*} = L_{i^*}(y_1, y_2, \dots, y_m) = \text{Maximum} \{L_1(y_1, y_2, \dots, y_m), L_2(y_1, y_2, \dots, y_m)\}.$$

3. Check the value of λ_n at the end of experiment

If $\lambda_n \geq (1-\alpha) / \alpha$, accept H_{i^*} and reject $H_j, j \neq i^*$.

If $\lambda_n < (1-\alpha) / \alpha$. The result is inconclusive. There is insufficient evidence to conclude that one of the procedure is better at a significant level α

Step 3 presents the difference of modified RSPRT like approach from the RSPRT. The experiment in the RSPRT procedure stops when the value of λ_n reaches a predetermined value, while this modified procedure does not stop until at the end of the data available.

As a consequence, there is possibility that the best model may not be selected because the value of λ_n is away from the criterion specified. Therefore, the output of the selection procedure will be inconclusive.

Similarly, the modified procedure for selecting the best model among several models can be described as follows:

1. A constant α is chosen. The value of α is between 0 and 1, ($0 < \alpha < 1$).
2. Collect data $\{y_1, y_2, \dots, y_n\}$

Sequentially calculate the ratio

$$\lambda_{jm} = \frac{L_{i^*}(y_1, y_2, \dots, y_m)}{L_j(y_1, y_2, \dots, y_m)} \quad \text{for } j \neq i^* \quad \text{for } m = 1, 2, \dots, n \quad (2.8)$$

Where $L_j = L_j(y_1, y_2, \dots, y_m)$ for $j = 1, 2, \dots, k$ are the likelihoods of the data under each of the hypotheses and $L_{i^*} = L_{i^*}(y_1, y_2, \dots, y_m) = \text{Maximum} \{L_j(y_1, y_2, \dots, y_m) / j = 1, 2, \dots, k\}$.

In practice, L_1, L_2, \dots, L_k are not computed to determine L_{i^*} . The reasons are: (1) these numbers will become extremely small and (2) they are subject to round-off error. However, the ratios $L_1/L_2, L_2/L_3, \dots, L_{k-1}/L_k$ are calculated and stored. These ratios are updated with a ratio of each new data point. At any stage, these updated ratios are compared with 1 to determine L_{i^*} .

3. At the end of experiment check the value of φ_n .

If $1 + \sum_{j \neq i^*} (1/\lambda_{jm}) \leq 1/(1-\alpha)$ accept H_{i^*} .

If $1 + \sum_{j \neq i^*} (1/\lambda_{jm}) > 1/(1-\alpha)$ the result is inconclusive.

The acceptance of H_{i^*} means procedure i^* is selected the best of procedures $\{1, 2, \dots, k\}$ at a significance level α .

Chapter 3

Market Timing

3.1. Background

Equities as measured by the S & P 500 have returned 11.9 % annual return between 1978 and 1998. This means that an investor who invested \$1.00 in 1978 and held that investment till 1998 would have $\$(1+.119)^{20}$ or \$9.47 in year 1998. This strategy of buying and holding equities is often referred to as a “buy-and-hold” strategy. However, equities do not go up in a straight line. There are many periods of time when the market has gone down. If an investor had perfect information he or she would be out of market during these down periods. Many investors and investment analysts believe they can correctly predict when the market will decline. These investors sell their equities and move their assets into alternative investments such as treasury bill during periods where they believe a market decline is forthcoming. These investors return to equities in periods where they believe the equity market will rise. Such a strategy is often referred to as market timing.

Many if not most investors follow some form of market timing. However, there is a considerable body of research in finance that questions the effectiveness of various market-timing strategies. The application of market timing in the real world is in debate. Prior studies have shown the pros and cons of market timing. The question is whether one should use market timing or just stay in the market ?

3.2. Existing Models

Sharpe (1975) explores the potential gains from market timing and shows how they relate to the portfolio manager's ability to make correct predictions. His article considers only strategies involving scheduled annual reviews. The first alternative is presented by Standard and Poor's composite Index, the second by prime bankers' acceptances (up to 1942) or U.S. Treasury bill (after 1942). The data are from 1929 through 1972.

Each year can be categorized as either a good or a bad market year. A good year means the total return, including dividends, on stocks is better than that of cash equivalents. A bad year is the reverse. In terms of bad and good years, successful investment timing can be defined as holding stocks in good market years and cash equivalents in bad markets years. Transaction costs equal to two per cent of the value of the assets are assessed every time there is a shift from stocks to cash equivalents or vice versa.

First, he compares returns for the market timing strategy with perfect predictive ability to those achieved by cash equivalents and a buy-and-hold stock policy over three different periods (1929-1972, 1934-1972, and 1946-1972). Three measures of performance are used; the arithmetic average of the annual rates of return, the standard deviation of return and the geometric mean of the annual returns. The result shows the superiority of the perfect prediction strategy relative to stock over the period 1929 to 1972. The differences between the buy-and-hold strategy and the perfect prediction strategy are considerably smaller from 1934 to 1972 and 1946 to 1972. A policy involving accurate market timing has two advantages. It brings returns that are both higher on average and subject to less variability.

To assess the likely performance of funds whose managers attempt to time the market and sometimes fail, the assumed predictive process is used (see the figure below).

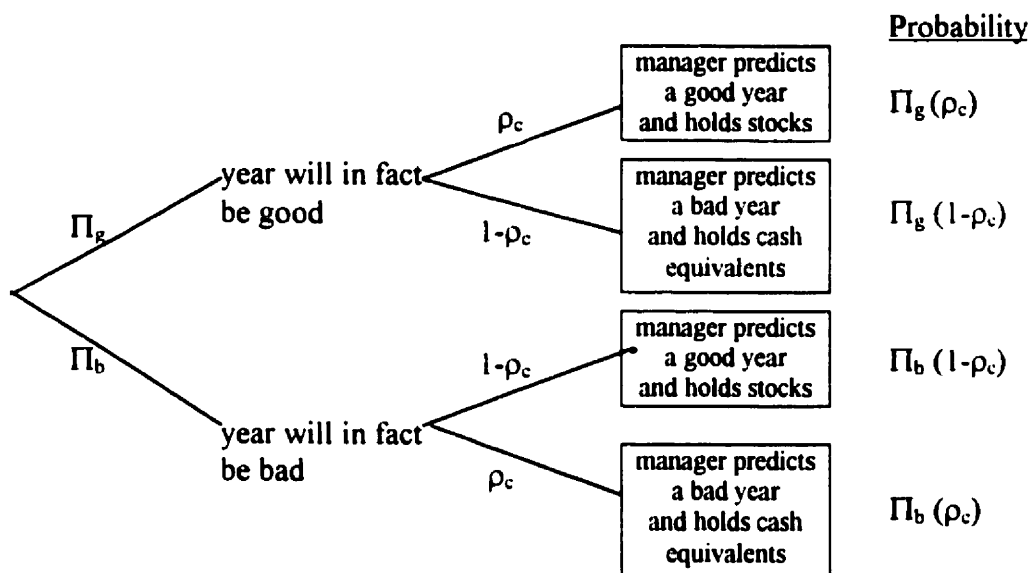


Figure 3.1: The Assumed Predictive Process

At the beginning of each year the manager is assumed to predict either a good or a bad market year, then either leave his or her funds alone or move them to the alternative investment, depending on his or her prediction. Funds are assumed to be invested either in stock or cash equivalents, with transaction costs of two per cent incurred whenever a change is made. The manager is assumed to be right only some of the time. The proportion of correct predictions is represented by ρ_c . Thus, the probability that he or she will predict a good year when in fact a good year is coming is ρ_c , while the probability is $(1-\rho_c)$ that he or she will predict a bad year when a good year is actually coming. His or her predictive ability when a bad year is in prospect is assumed to be of comparable accuracy. The actual probabilities of good and bad years are Π_g and Π_b , respectively.

The overall probability of each of four probable outcomes is shown on the right of the figure.

To estimate return when ρ_c is less than one, some assumptions must be made about the probability of a good and a bad years. For all periods, Π_g and Π_b were taken from the historical data. Historical data were also used to calculate the mean annual return achieved by stocks and cash equivalents during good and bad years. The overall expected return for any given degree of predictive accuracy is a weighted average of the expected values for the four outcomes, with the probabilities of the outcomes used as weights:

$$\mu \text{ (the overall expected return)} = \sum_i \rho_i \mu_i$$

where

ρ_i = the probability of outcome i , and

μ_i = the expected return for outcome i .

Sharpe (1975) assumes that the probability of predicting a good year prior to a good year equals the probability of predicting a bad year prior to a bad year. The results of the study suggest that a manager who attempts to time the market must be right roughly three times out of four, to match the overall performance of those competitors who do not.

Vandell and Stevens (1989) show that a portfolio performance based on relatively simple spreads between stocks and bonds increased average portfolio returns and reduced downside risks. The data for estimated total rates of return for equity and fixed-incomes portfolios on a monthly basis are made available by Wells Fargo from January 1973 to December 1984. Vandell and Stevens (1989) compare returns for Wells Fargo's market

timing strategy to those achieved by the “market” (S & P 500 index), the US government bond portfolio, and a stable mix of 0.679 equities and 0.321 government bonds. In Wells Fargo’s market timing strategy, a higher fraction of the portfolio was invested in equities when the expected spread in rates of return stocks vs. bonds (1973–1984) was large. When the expected spread in rates of return stocks vs. bonds was narrow, a higher fraction of the portfolio was invested in the safer fixed-income security portfolio. The performance records of funds invested are examined using cumulative performance, average annual return characteristic line, the four-year moving (annualized) performance of the timed policy relative to the S & P 500 index and the stable asset mix strategy. The characteristic line is obtained by plotting timed portfolio returns versus S & P 500 returns, and plotting timed portfolio returns versus stable mix returns. The results of Vandell and Stevens (1989) studies indicate that portfolio performance can be improved by market timing.

Droms (1989) applies the methodology first proposed by Sharpe (1975) to assess the potential gains from market timing and to estimate the predictive accuracy needed for market timing to add value to the investment management process. Droms (1989) extends the original Sharpe’s work (1975) in several important ways. First, it examined the 1926-86 period, extending Sharpe’s 1933-72 period. The impact of capital market experience of the 1970s, as well as the turmoil of the Depression, are thus included. Second, Sharpe (1975) assesses only the likely gains from annual timing. Droms (1989) assesses the likely gains from annual, quarterly and monthly timing. Third, Sharpe (1975) examines the entire 1933-1972 period; the Droms (1989) examines the entire 1926-1986 period plus three subperiods – 1946-1986, 1969-1986 and 1973-1986.

For the 1946-1986 period, the results of perfect annual timing are very similar to Sharpe's observation of incremental returns of about 4 per cent per year for the 1933-1972 period. For the entire 1926-1986 period, the return advantage increases to 6.47 per cent per year. This large return incremental is due to the perfect timer's foresight in avoiding common stocks during the Great Depression. The return advantage to perfect timing increases dramatically as the frequency of timing increases. Perfect quarterly timing produces a return advantage of 10.7 to 15.8 per cent per year. Perfect monthly timing produces return increments ranging from 19.4 to 26.0 per cent per year.

Droms (1989) also examines the impact of differential level of forecasting accuracy – that is, the case where the probability of predicting a bull period prior to a bull period does not equal the probability of predicting a bear period prior to a bear period. The results of annual timing in order to outperform buy-and-hold policies are as follows:

The accuracy of forecasting a bull period prior to a bull period is 70 percent and the accuracy of forecasting bear period prior to a bear period is 80 percent.

Or

The accuracy of forecasting a bull period prior to a bull period is 80 percent and the accuracy of forecasting bear period prior to a bear period is 50 percent.

Or

The accuracy of forecasting a bull period prior to a bull period is 90 percent and the accuracy of forecasting bear period prior to a bear period is 30 percent.

Or

The accuracy of forecasting a bull period prior to a bull period is 100 percent and the accuracy of forecasting bear period prior to a bear period is any percentage.

The study concludes that accuracy in forecasting bull market is relatively more important than accuracy in forecasting bear market.

Clarke et al. (1989) examine the effects of various amounts of information on expected returns from market timing and showed that even modest amount of information can help a market timer to overcome the advantage of a buy-and-hold investor. The market timer in their model chose between cash and stocks, aiming to invest in the one with the highest return.

They assume that GNP (Gross Net Product) number is the only variable that contains information about future stock returns. The relation between GNP and future stock return is as follows:

$$S_{t+1} = \bar{S} + \beta GNP_t + e_{t+1} \quad (3.1)$$

where

S_{t+1} = the return on stock in the coming period, $t+1$,

GNP_t = a number based on the change in GNP over the past period, t ,

e_{t+1} = the residual or error term,

\bar{S} = the mean return on stock

β = the sensitivity of stock returns to changes in the GNP number.

The amount of information that the GNP number contains about future stock returns is measured by the correlation coefficient between the GNP number at time t and the return on stock over the following period $t+1$. The expected return on stocks for a given GNP number can be written as:

$$\begin{aligned}
 \text{Expected}(S_{t+1} | \text{given } GNP_t) &= \bar{S} + \beta GNP_t \\
 &= \bar{S} + \frac{\rho\sigma_s}{\sigma_{GNP}} GNP_t
 \end{aligned}
 \tag{3.2}$$

where

ρ =the correlation coefficient between the GNP number in period t and stock return in period $t+1$,

σ_s =the standard deviation of stock returns

σ_{GNP} = the standard deviation on the GNP number

In order to know how the use of imperfect information affects the risk and return of the market timer's portfolio, they investigate the risk and return of the market timer's portfolio through simulation. The simulation proceeds in three stages. The first stage involves the generation of a random GNP number. The second stage involves the calculation of an expected return on stock conditional on the GNP number. Stocks are chosen if the conditional return on stock exceeds the return on cash; otherwise cash is chosen. The process ends here if cash is chosen and the market timer receives the cash return. However, if stocks are chosen, the third stage involves the generation of an actual stock return from a distribution with the conditional expected stock return and standard deviation. The three-stage process is repeated 40,000 times. The result shows that an increase in information leads to an increase in the mean return of the market timer's portfolio.

Sharpe (1975) concludes that to be successful with a market timing strategy one needs to be correct at least 75 per cent of the time. Sy (1990) disagrees with this conclusion. Sy (1990) follows Sharpe (1975) in estimating the degree of predictive accuracy needed in

market timing to break even relative to benchmark. The benchmark used usually is that of a “buy-and-hold” stock strategy.

Two sets of empirical data are used in Sy (1990). The first set consists of annual rates of return given in Sharpe (1975), covering the period 1929 to 1972 inclusive, for U.S. equities represented by the Standard & Poor’s Composite Index and for cash equivalents represented by U.S. Treasury bill. The second set of data consists of monthly rates, covering the period January 1970 to August 1989 inclusive, for U.S. equities represented also by the Standard & Poor’s Composite Index and for cash equivalents also represented by U.S. Treasury bill.

Sharpe (1975) eliminates years 1929 to 1933 from his analysis in the belief that those were unusual years and unlikely to be repeated in the future. Since Sy (1990) includes the period of 1929-1933 in the analysis, the timing correctness required drops from 75 per cent to about 65 per cent. This shows how sensitive market timing is to a few significant events in the tail of the distribution of returns.

Beebower and Varikooty (1991) evaluate the effectiveness of various measures by simulating the performance of managers with differing abilities to time the market. They look at four measures of performance. The first one uses the standard t-statistic test for superior performance relative to the benchmark. The second measure looks at the percentage of times the market timer has underperformed the benchmark. The third measure is a non parameter chi-square test of independence. The null hypothesis is that the manager's proportion of investment in an asset class is independent of whether a bull or bear market exists. The fourth test applies the probit model. Here, the manager

invests in particular asset class, given the differences between the returns of various asset classes.

In their simulation the manager switches between two asset classes—equities and treasury bill—based on his or her ability to forecast the relative returns. They simulate performance over the period 1926 through 1989 and the postwar period 1946 through 1989.

Three steps in their study provide the market-timing investment performances to be measured. The first step involves identifying bull and bear phase. The second step defines the investment manager's ability to forecast stock market turning point. Turning point is the month during which the market shifts from one phase to another. The third step involves simulating the investment performance of each manager. The good market timing in their simulation is the ability to identify accurately the starting and ending points of bull market and bear market phases. By changing forecasting probabilities, they simulate the performances of managers with different forecasting characteristics. There are nine managers in their study. For each manager, they ran 200 simulations.

The results of their study indicate that using the t-statistic to determine a manager's timing ability requires a large number of observations. For example, to identify manager 8, who has a superior timing ability of 2.77 per cent per annum, they need 96 years of data. The results indicate that the percentage of times the manager underperformed the S&P 500 index is approximately 42 per cent for the manager who adds no value over time and 35 percent for managers who over time add 1.5 to 2 per cent to the S&P 500's return.

Wagner et al. (1992) apply a number of the measurement tools of modern portfolio to the performance of a sample of market timers. Results are evaluated according to the return, variability of returns, and risk-adjusted return. The results of their study show that market timing as an investment approach appears superior than a buy-and-hold strategy. Variability of return was considerably less with market timing. Variability of return was used to measure the risk. Their study considers a five-year study period of October 1985 through the end of September 1990.

Brocato and Chandy (1994) show that random market timing can produce superior returns to timing results. These findings conflict with research by Wagner et al. (1992), who present support for the marker-timing argument based on evidence from practicing market timers. Brocato and Chandy (1994) present simulated returns for the same five-year period as those used by Wagner et al.

A probability model is used by Larsen and Wozniak (1995) to try and establish the superiority of market timing. The probability of the first asset (S&P 500) outperforming the second asset (US Treasury Bill) is defined and included in the discrete regression model (DRM). The DRM developed in their work is a function of eight variables, such as spreads, variance of the S&P 500 index, industrial production, inflation, and dividend. The main finding of their work is that portfolio performance is superior to passive fixed-weight strategies. The ability to reduce the risk is presented. The DRM approach is also able to reduce the number of monthly transactions associated with the fixed-weight strategies.

3.3. Proposed Models

Larsen and Wozniak (1995) is the only research work that generates probability of equities outperforming risk-free investments. This thesis suggests other ways of estimating this probability. There are four approaches employed: constant probability, moving probability, lognormal probability and relative frequency-based probability. If market-timing approach is used in investment strategy, the best probability model is needed. This thesis uses a statistical method to select the best probability model.

Chapter 4

Probability Models for Equities

4.1. General

In this chapter, the application of the fixed sample size modification of Rosenbloom's sequential method is presented. A number of models for estimating the probability of equities outperforming treasury bill are examined. The data used for equities are value-weighted returns and equal-weighted returns from combined NYSE/AMEX and Nasdaq indices, and the S & P 500 composite returns. The returns considered in this study are monthly data ranging from January 30, 1926 to December 31, 1997. The rates of the 3-month Treasury bill for the period of January 1934 - December 1997 are used. Since the data is already available, there is no need to do a pure sequential test. All the data that is available should be used and therefore the fixed sample size modification is employed. The performances of a number of models are compared using the fixed sample size modification and the best model can be selected.

4.2. Description of Selected Models

The models considered in this thesis are partitioned into two groups. In the first group, I look at probability distributions which have been suggested for modeling behavior of stock prices. In particular we look at normal and lognormal. The normal distribution is chosen since most of financial approaches in modeling the price changes on stocks and the returns on portfolios are approximately normal. The lognormal distribution is chosen because most financial models of stock prices assume that the stock's price follows a

lognormal distribution. In the second group, I look at models which generate a probability of equities outperform risk-free investment. There are four models examined in the second group; constant probability, moving probability, lognormal probability, and relative frequency-based probability.

4.3. Probability Distributions for Stock Returns

As mention before, two possible models for stock market returns are the normal distribution and the lognormal distribution.

4.3.1. Normal Distribution Function

A model for value-weighted returns is developed using the normal distribution probability density function:

$$f(x) = \frac{1}{\sigma \sqrt{2\pi}} \exp\left[-\frac{(x-\mu)^2}{2\sigma^2}\right] \quad (4.1)$$

which can be easily model in Excel by:

$$= \text{NORMDIST}(x, \mu, \sigma) \quad (4.2)$$

The parameter μ is the mean of value-weighted returns, the parameter σ is the standard deviation of value-weighted returns, and x is the value-weighted return. Both μ and σ are estimated based on the historical data from January 30, 1926 to December 29, 1961.

The parameters μ and σ are then used to generate probability density function for value-weighted returns using the NORMDIST function available in Excel. This NORMDIST function is used the model the likelihood function for the data in the period of January 31, 1962 – December 31, 1997.

4.3.2. Lognormal Distribution Function

Probability density distribution functions for value-weighted returns is developed using the lognormal distribution function expressed in the form of:

$$f(x) = \frac{1}{(\sqrt{2\pi})\sigma x} \exp\left[-\frac{(\ln x - \mu)^2}{2\sigma^2}\right] \quad (4.3)$$

The parameters of μ and σ were estimated from historical monthly data January 30, 1926 to December 29, 1961.

Most financial models of stock prices assume that the stock's price follows a lognormal distribution. This means that the logarithm of the stock's price at any time is a normally distributed random variable. Most finance practitioners assume that price of stock may be modeled by

$$P_t = P_o * \exp\left[(\mu - .5 * \sigma^2) * t + \sigma * Z * t^{.5}\right] \quad (4.4)$$

Where

P_o = Price of stock at time 0.

t = Time in years.

P_t = Price of stock at time t.

Z = A standard normal random variable.

μ = Mean percentage growth rate of stock (per year) expressed as a decimal.

σ = Standard deviation of the growth rate of stock (per year) expressed as a decimal.

The fixed sample size modification of Rosenbloom's sequential method is applied to the normal and lognormal models to determine which model is better.

The procedure is repeated for equal-weighted returns and S & P 500 returns, respectively.

4.4. The Probability of Equities Outperforming Treasury Bill

There are four models examined in this group; constant probability, moving probability, lognormal probability, and relative frequency-based probability.

4.4.1. Constant Probability Model

The constant probability is the probability obtained from the fraction of the time the value-weighted returns outperform treasury bill between January 1934 to December 1965. This probability is then used to estimate the probability of value-weighted returns outperforming treasury bill in any month between January 1966 to December 1997. As a treasury bill return r (stated in %) is stated in term of an annual return, the monthly return from treasury bill, d , is calculated as follows:

$$d = (1 + .01 * r)^{1/12} - 1 \quad (4.5)$$

4.4.2. Moving Probability Model

In the moving probability model the probability of the value-weighted return outperforming treasury bill in a month between January 1966 and December 1977 is approximated by the relative frequency of value-weighted returns outperforming treasury bill between January 1934 and the previous month. For example, there are 240 months of the value-weighted returns outperforming treasury bill between January 1934 and December 1965. To calculate the probability of the value-weighted return outperforming treasury bill in January 1966 is the total months of the value-weighted returns outperforming treasury bill between January 1934 and December 1965 divided by the total months between January 1934 and December 1965 (384 months). Thus, the

probability of the value-weighted return outperforming treasury bill in January 1966 is
 $240/384 = 0.625$

4.4.3. Lognormal Probability Model

The probability of value-weighted returns outperforming treasury bill for the period of January 1966 – December 1997 is calculated using lognormal distribution parameters μ and σ . These two parameters are estimated using the data from January 30, 1926 to December 31, 1965.

The formula used to calculate the probability is as follows

$$\Pr \left(Z \geq 12^s \left[\frac{\log(1+d) - \frac{1}{12}(\mu - .5\sigma^2)}{\sigma} \right] \right) \quad (4.6)$$

Where d is the monthly returns from treasury bill

This formula is derived from the lognormal model. As mentioned before, that price of stock may be modeled by

$$P_t = P_0 * \exp \left[(\mu - .5 * \sigma^2) * t + \sigma * Z * t^s \right] \quad (4.7)$$

Using the lognormal model, the probability that the market return in 1 month $P_{1/12}/P_0$, exceeds the return on risk-free investment d , is equal to

$$\frac{P_{1/12}}{P_0} \geq 1 + d, \quad (4.8)$$

or

$$= \Pr \left(\exp \left((\mu - .5\sigma^2) \frac{1}{12} + \sigma Z t^s \right) \geq 1 + d \right) \quad (4.9)$$

or

$$= \Pr \left(\left(\mu - .5\sigma^2 \right)^{\frac{1}{12}} + \sigma Z \left(\frac{1}{12} \right)^5 \geq \log (1+d) \right) \quad (4.10)$$

or

$$= \Pr \left(\sigma Z \left(\frac{1}{12} \right)^5 \geq \log (1+d) - \frac{1}{12} \left(\mu - .5\sigma^2 \right) \right) \quad (4.11)$$

or

$$= \Pr \left(Z \geq 12^5 \left[\frac{\log (1+d) - \frac{1}{12} \left(\mu - .5\sigma^2 \right)}{\sigma} \right] \right) \quad (4.12)$$

4.4.4. Relative Frequency-Based Probability Model

The probability that value-weighted returns are higher than a specific treasury rate d is estimated by using the relative frequency of value-weighted returns from January 1934 to December 1965. For example if the current monthly treasury bill rate is 1% and between January 1934 and December 1965, the value-weighted return was above 1 %, 62 % of the time an estimate of the value-weighted return exceeding the treasury bill rate is .62.

Once the probabilities of value-weighted returns outperforming treasury bill are obtained using the four models, the next step is to apply the fixed sample size modification of Rosenbloom's sequential method (1999) to these four models in order to select which model is the best.

The procedure is repeated for equal-weighted returns and S & P 500 returns, respectively. When the procedure is applied for S & P 500 returns, the model developed by Larsen and Wozniak (1995) is included. Therefore, there are five models considered in that selection, instead of four models as done for value-weighted and equal-weighted returns.

The Larsen and Wozniak model (1995) sometimes generates probability estimates of “1” or “0”. However, there are instances when the Larsen and Wozniak model (1995) generates a probability estimate of 1 and the market return does not exceed the treasury bill return. Similarly there are instances of Larsen and Wozniak model (1995) generating a probability estimate of 0 and the market return exceeds the treasury bill rate. This will result in the corresponding likelihood function to be exactly 0. Since the Rosenbloom's sequential method compares likelihood function, the Larsen and Wozniak model would be eliminated for consideration as the best model. In order to be as fair as possible to Larsen and Wozniak model (1995), a number of modifications were considered.

1. Include probability of 1 and 0. This means Larsen and wozniak likelihood will be 0 and hence the worst.
2. Eliminate probability of 1 and 0.
3. Eliminate probability of greater than .95 and probability of less than .05
4. If Larsen and Wozniak gives probability of greater than 0.90, reassign probability of equal to .90. If Larsen and Wozniak gives probability of less than .10, reassign probability of equal to .10

Chapter 5

Data, Method, and Results

5.1. A Test of Probability Distributions for Stock Returns

Two possible models for stock market returns are the normal distribution and the lognormal distribution. The fixed sample size modification of Rosenbloom's sequential method is used in order to select the better model for equities.

The data used for equities are value-weighted returns and equal-weighted returns from combined NYSE/AMEX and Nasdaq indices, and the S & P 500 composite returns from January 30, 1926 to December 31, 1997 which consists of a total of 864 data points.

The tests are conducted for modeling value-weighted returns, equal-weighted returns, and the S & P 500 composite returns. The first test presented is for value-weighted returns.

The two hypotheses tested are:

H_1 : Value-weighted returns follow a Normal distribution

Versus

H_2 : Value-weighted returns follow a Lognormal distribution

In conducting the fixed sample size modification of Rosenbloom's sequential method the following steps are followed:

1. Assuming normal distribution for value-weighted returns, the mean of value-weighted returns (μ) and the standard deviation of value-weighted returns (σ) are estimated

based on the historical data from January 30, 1926 to December 29, 1961 (Appendix 1).

2. The parameters μ and σ are then used to calculate the normal distribution probability density function for value-weighted returns for the data in the period of January 31, 1962 through December 31, 1997 (Appendix 2). This was a total of 432 data points.
3. Assuming lognormal distribution for value-weighted returns, calculate the parameters μ and σ for the period of January 30, 1926 to December 29, 1961 (Appendix 1).
4. The parameters μ and σ are then used to calculate the lognormal distribution probability density function for value-weighted returns for the data in the period of January 31, 1962 through December 31, 1997 (Appendix 2).
5. Apply fixed sample size modification of Rosenbloom's sequential method to these two probability distributions.
6. A constant α is set equal to 0.05 and hence one hypothesis would be better than the other if $\lambda_n \geq (1-\alpha)/\alpha = (1-0.05)/0.05 = 19$
7. The value of λ_n at the end of experiment is 28.40 (Appendix 2).

Since $\lambda_n \geq 19$, the H_1 assumption should be accepted. Therefore, it can be concluded that the normal distribution function model is better than the lognormal distribution function model for modeling value-weighted returns at a significance level of $\alpha = 0.05$. It is noteworthy that we have significance at a 5 % level but not at a 1 % significance. Given the fact that we have a large data set of 432 points, there may not be much practical difference between the two models.

The same procedure is repeated for the equal-weighted returns and the S & P 500 composite returns. The calculations needed can be found in Appendix 1, 3, 4, 5.

For the equal-weighted returns, the two hypotheses tested are:

H_1 : Equal-weighted returns follow a Normal distribution

Versus

H_2 : Equal-weighted returns follow a Lognormal distribution

The value of λ_n at the end of experiment is 33843.3871 and the H_i^* is H_2 . This value is very high because the likelihood for the lognormal distribution higher than the likelihood for the normal distribution in 72 % of the data. These results lead to high value of λ_n . Since $\lambda_n \geq 19$, the H_2 assumption should be accepted. Hence, it can be concluded that a lognormal distribution model is better than a normal distribution for modeling the equal-weighted returns at significant level of $\alpha = 0.05$. In fact these results would be significant at an $\alpha = 0.0001$.

For the S & P 500 returns, the two hypotheses tested are:

H_1 : The S & P 500 returns follow a Normal distribution

Versus

H_2 : The S & P 500 returns follow a Lognormal distribution

The value of λ_n at the end of experiment is 12.7566. Since $\lambda_n \leq 19$, the result for modeling the S & P 500 is inconclusive. Inconclusive means that there is insufficient evidence to conclude that the normal distribution function model is better than the lognormal distribution function model for modeling the S & P 500 returns at a

significance level of $\alpha = 0.05$. Given the large data set, there is clearly no practical difference between the models.

5.2. A Test of the Probability of Equities Outperforming Treasury Bill

Four probability models that generate a probability of equities outperforming debt were considered; constant probability model, moving probability model, lognormal probability model, and relative frequency-based probability model.

The same data set as before is used, and the 3-month treasury bill are used for cash for the period of January 1934 to December 1997.

The tests are conducted for modeling the probability of value-weighted returns outperforming treasury bill, the probability of equal-weighted returns outperforming treasury bill, the probability of the S & P 500 outperforming treasury bill. The first test conducted is for value-weighted returns outperforming treasury bill.

In order to illustrate how the fixed sample size modification of Rosenbloom's sequential method can be used to choose between more than two hypotheses, consider the following four hypotheses:

H_1 : Constant probability model provides the probability of value-weighted returns outperforming treasury bill

Versus

H_2 : Moving probability model provides the probability of value-weighted returns outperforming treasury bill

Versus

H₃ : Lognormal probability model provides the probability of value-weighted returns outperforming treasury bill

Versus

H₄ : Relative frequency-based probability model provides the probability of value-weighted returns outperforming treasury bill

In conducting the test the following steps are followed:

- 1. Calculate the fraction of the time the value-weighted returns outperforming treasury bill between January 1934 to December 1965 (Appendix 6). This constant probability is then used to estimate the probability of value-weighted returns outperforming treasury bill in any month between January 1966 to December 1997 (384 data points).**
- 2. Calculate the moving probability of the value-weighted return outperforming treasury bill in a month between January 1966 and December 1997 using the relative frequency of the value-weighted returns outperforming treasury bill between January 1934 and the previous month (Appendix 7).**
- 3. Calculate the probability of value-weighted returns outperforming treasury bill for the period of January 1966 to December 1997 using lognormal distribution parameters μ and σ (Appendix 9). These two parameters are estimated using the data from January 30, 1926 to December 31, 1965 (Appendix 8).**
- 4. Calculate the probability of the value-weighted returns are higher than a specific treasury bill rate d using the relative frequency of value-weighted returns from January 1934 to December 1965 (Appendix 10).**

5. Apply the fixed sample size modification of Rosenbloom's sequential method to these four probability models.
6. A constant α is set equal to 0.05 and hence one of the hypothesis would be chosen if $\varphi_n \leq 1/(1-\alpha) = 1/(0.95) = 1.0526$.
7. The value of φ_n at the end of experiment is 1.06 with hypotheses H_1 performing best (Appendix 11).

Since $\varphi_n \geq 1.05$, the result is inconclusive. There is insufficient evidence to accept one of the hypotheses as best.

The same procedure is repeated for the probability of the equal-weighted returns outperforming treasury bill and the probability of the S & P 500 outperforming treasury bill. The calculations can be found in Appendix 8, 9 and Appendices 12-21.

The results of modeling the probability of equities outperforming treasury bill are presented in Table 5.1. It can be seen from Table 5.1. that the results are inconclusive between lognormal probability model and relative frequency-based probability model for modeling the probability of equal-weighted returns outperforming treasury bill and for modeling the probability of the S & P 500 outperforming treasury bill. Inconclusive means that there is insufficient evidence to conclude the best model. Alternately, can we conclude that any of the models are clearly inferior? I propose the following definition to eliminate inferior models.

Definition: Model i of model $1 \dots k$ is to be eliminated at a level α (or is not the best model) if

$$\frac{L_i}{\sum L_j} \leq \alpha \quad (5.1)$$

Or

$$\frac{1}{1 + \sum_{j \neq i} \frac{L_j}{L_i}} \leq \alpha \quad (5.2)$$

Rosenbloom (1995) provided a definition of the model being best.

Definition: Model i of model $1 \dots k$ is the best at a level α if

$$\frac{L_i}{\sum L_j} \geq 1 - \alpha \quad (5.3)$$

Or

$$\frac{1}{1 + \sum_{j \neq i} \frac{L_j}{L_i}} \geq 1 - \alpha \quad (5.4)$$

Using these definitions, the following table summarizes the results

Table 5.1: Posterior Probability of Being Best

Models Considered	A	B	C
Constant probability	0	0.006	0.014
Moving probability	0.019	0.049	0.038
Lognormal probability	0.038	0.439	0.196
Relative frequency-based probability	0.943	0.505	0.752

Where

A = Modeling the probability of value-weighted returns outperforming treasury bill

B = Modeling the probability of equal-weighted returns outperforming treasury bill

C = Modeling the probability of the S & P 500 outperforming treasury bill

In modeling the probability of value-weighted returns outperforming treasury bill, the posterior probability for constant probability model, moving probability model and lognormal probability model are 0, 0.019, 0.038 respectively. These values are less than 0.05 (significance level $\alpha = 5\%$), therefore those three models can be eliminated from the selection. The posterior probability of relative frequency-based probability model is 0.943 which is not quite greater than 0.95 or $(1-\alpha)$. Although we can not conclude that the relative frequency-based probability approach is best at a level $\alpha = 0.05$, the results suggest that it is the most reasonable model.

In modeling the probability of equal-weighted returns outperforming treasury bill, constant probability model and moving probability model are being eliminated since the posterior probability are 0.006 and 0.049 respectively less than 0.05 (significance level $\alpha = 5\%$). The posterior probability for lognormal and relative frequency-based probability model are 0.439 and 0.505 respectively which are not greater than 0.95. Therefore, the result is inconclusive between lognormal and relative frequency-based probability model at a significance level of $\alpha = 0.05$. Hence, there is insufficient evidence to accept one of the models as the best.

In modeling the probability of the S & P 500 returns outperforming treasury bill, constant probability model and moving probability model are being eliminated since the posterior

probability are 0.014 and 0.038 respectively less than 0.05 (significance level $\alpha = 5\%$). The posterior probability for lognormal and relative frequency-based probability model are 0.196 and 0.752 respectively which are not greater than 0.95. Therefore, the result is inconclusive between lognormal and relative frequency-based probability model at a significance level of $\alpha = 0.05$. Hence, there is insufficient evidence to conclude the best model at a significance level of $\alpha = 0.05$.

The procedure is repeated for modeling the probability of the S & P 500 outperforming treasury bill since the Larsen and Wozniak (1995) is included as a probability model. The Larsen and Wozniak (1995) model provide probability estimates for the S & P 500 outperforming treasury bill between January 1982 and December 1992. The Larsen and Wozniak model does on occasions generate probabilities of 1 and 0. Unfortunately, the Larsen and Wozniak is sometimes wrong when generating probabilities of 0 and 1. By wrong, it is meant that it generates a probability of 1 and the S & P 500 does not outperform treasury bill. Similarly, it is wrong when it generates a probability of 0 and the S & P 500 does outperform treasury bill. Since this does occur, the Larsen and Wozniak model (1995) will never be chosen as the best method with an SPRT-like test. In order to be as fair as possible to Larsen and Wozniak (1995), a number of modifications were made to Larsen and Wozniak (1995). The first is to eliminate probability of 1 and 0. The second is to eliminate probability of greater than .95 and probability of less than .05. The third is, if Larsen and Wozniak gives probability of greater than .90, probability of equal to .90 is reassigned and if Larsen and Wozniak (1995) gives probability of less than .10, probability of equal to .10 is reassigned. The

focus here is Larsen and Wozniak (1995). For the period 1982 - 1992, we want to determine whether

1. Larsen and Wozniak is the best

Or

2. Larsen and Wozniak can be eliminated as not the best

Or

3. It is inconclusive whether Larsen and Wozniak is the best or not.

The results indicate that the Larsen and Wozniak model is eliminated for all tests.

The calculations needed are demonstrated in Appendices 22-24.

Chapter 6

Conclusions and Future Work

6.1. Conclusions

This thesis suggests a number of models for estimating the probability that equities outperform treasury bill. A statistical method used to select the best probability model is Rosenbloom's sequential method (1999). Since the data is already available, there is no need to do a pure sequential test. Rosenbloom's sequential method (1999) is modified. The fixed sample size modification of Rosenbloom's sequential method is first applied to probability density functions for value-weighted returns, equal-weighted returns and the S & P 500 composite returns. The results indicate that lognormal distribution function is better than normal distribution function for modeling value-weighted returns at a significance level of $\alpha = 0.05$. For modeling equal-weighted returns, normal distribution function is better than lognormal distribution function at a significance level of $\alpha = 0.05$. The normal distribution function is better than lognormal distribution function at a significance level of $\alpha = 0.10$ when applied for modeling the S & P 500 composite returns.

Four probability models are considered in applying the fixed sample size modification of Rosenbloom's sequential method to modeling the probability that equities outperforming treasury bill. They are constant probability, moving probability, lognormal probability and relative frequency-based probability. The result is inconclusive for modeling the probability that the value-weighted returns outperforming treasury bill at a significance

level of $\alpha = 0.05$. There is insufficient evidence to accept one of the models is the best. When the significance level is changed to $\alpha = 0.10$, the relative frequency-based probability model is the best approach. For modeling the probability of equal-weighted returns and the S & P 500 returns outperforming treasury bill, the results are inconclusive between relative frequency-based probability and lognormal probability model. Hence, there is insufficient evidence to conclude one of the models is the best.

The Larsen and Wozniak model (1995) is also included in the test for the period 1982 - 1992 to determine whether it is the best or is eliminated as not the best. The result shows that Larsen and Wozniak can be eliminated as not the best.

6.1. Future Work

The fixed sample size modification of Rosenbloom's sequential method has identified as a potential tool for selecting the best probability model among available approaches used to estimate the probability of equities outperforming treasury bill. It is possible that the method would be a useful tool for selecting and screening models for other forecast problems as well.

When Larsen and Wozniak (1995) is included in the test, a number of modifications are considered in order to be as fair as possible to Larsen and Wozniak. In fact, the results show that Larsen and Wozniak (1995) is always being eliminated as the best model. An addition to this research would be to extend the test period of Larsen and Wozniak. What if the test period extend to more years of data say, thirty, forty or fifty years? Would it be change the result of being eliminated as the best model? These are important questions that could be investigated in future research.

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Appendix 1
Mean and Std. Deviation
(PD Normal and PD Lognormal)

	A	B	C	D	E	F
1						
2	Combined nyse/amex and nanye/amex and nasdaq indices between 251231 and 971231					
3						
4	Date	Value Weighted	Equal Weighted	Total Market Value	Value Weighted	Equal Weighted
5	(YYMMDD)	Return	Return	(in 1000's)	ln(1+return)	ln(1+return)
6						
7	251231			0		
8	260130	0.000431	0.023188	27291738	0.000430907	0.022923243
9	260227	-0.032049	-0.053109	27427572	-0.032573813	-0.054571293
10	260331	-0.064579	-0.096893	26527528	-0.066758584	-0.101914239
11	260430	0.037256	0.031374	25264322	0.036578765	0.030891894
12	260528	0.014549	0.003600	26201364	0.014444179	0.003593536
13	260630	0.055532	0.051122	26610692	0.054044905	0.049858165
14	260731	0.028476	0.013156	28156766	0.028078095	0.013070211
15	260831	0.027706	0.027702	28964272	0.027329134	0.027325242
16	260930	0.002458	-0.006191	29752826	0.002454984	-0.006210244
17	261030	-0.027810	-0.031069	29706430	-0.028204020	-0.031561877
18	261130	0.027726	0.023622	28673686	0.027348595	0.023347318
19	261231	0.029064	0.025990	29535832	0.028649651	0.025658000
20	270131	0.001707	0.010515	30713414	0.001705545	0.010460102
21	270228	0.045159	0.056518	30808020	0.044189027	0.054878595
22	270331	0.006724	-0.019213	32365028	0.006701495	-0.019399968
23	270430	0.006786	0.008532	32506690	0.006763079	0.006495808
24	270531	0.057336	0.061841	32865500	0.055752537	0.060004194
25	270630	-0.020423	-0.019194	34904996	-0.020634433	-0.019380596
26	270730	0.075360	0.058547	34120928	0.072655489	0.056697213
27	270831	0.025511	0.003558	36436372	0.025191025	0.003551685
28	270930	0.046540	0.032746	37333032	0.045489485	0.032221274
29	271031	-0.039414	-0.038482	40207360	-0.040211764	-0.039241993
30	271130	0.069393	0.097357	38551264	0.067091198	0.092904561
31	271231	0.023042	0.030012	41150356	0.022780542	0.029570453
32	280131	-0.002745	0.032689	41419052	-0.002748774	0.032166080
33	280229	-0.013542	-0.022414	41326188	-0.013634529	-0.022669011
34	280331	0.089915	0.070867	40617736	0.088099712	0.068468601
35	280430	0.042957	0.086378	44202672	0.042059948	0.082849227
36	280531	0.019359	0.037816	46074500	0.019173998	0.037118505
37	280630	-0.045935	-0.068294	46882448	-0.047023476	-0.070737965
38	280731	0.010175	0.003578	44899876	0.010123583	0.003571614
39	280831	0.067800	0.057345	45551092	0.065600457	0.055761049
40	280929	0.031345	0.050093	48318924	0.030863776	0.048878732
41	281031	0.020883	0.016349	50049272	0.020667939	0.016216794
42	281130	0.120432	0.116480	51255908	0.113714325	0.110180879
43	281231	0.003901	-0.004828	56973828	0.003893411	-0.004940183
44	290131	0.053275	0.033116	58100552	0.051904358	0.032579478
45	290228	-0.000478	0.006416	62165128	-0.000478114	0.006395505
46	290328	-0.007992	-0.032220	61816576	-0.008024107	-0.032750490
47	290430	0.018010	0.014018	61943032	0.017849741	0.013920656
48	290531	-0.055446	-0.089496	63592280	-0.057042421	-0.093758987
49	290629	0.099427	0.073517	61256072	0.094789135	0.070940174
50	290731	0.045771	0.019354	68297280	0.044754412	0.019168093
51	290830	0.084071	0.026149	71646128	0.080723399	0.025812960
52	290930	-0.049003	-0.042569	79405584	-0.050244371	-0.043501623
53	291031	-0.196541	-0.212381	74553088	-0.218829122	-0.238740809
54	291127	-0.122265	-0.121530	60846040	-0.130410553	-0.129573521
55	291231	0.017811	-0.025507	53608696	0.017654243	-0.025837943
56	300131	0.055871	0.108523	54696236	0.054366019	0.103028499
57	300228	0.026737	0.031987	57887580	0.026365812	0.031486070
58	300331	0.076761	0.102365	59077612	0.073957461	0.097457872
59	300430	-0.020583	-0.041406	63808400	-0.020797762	-0.042287651
60	300529	-0.012890	-0.038441	63030940	-0.012973797	-0.039199353
61	300630	-0.157490	-0.187408	62794820	-0.171369747	-0.207526140
62	300731	0.041089	0.039137	53070212	0.040267281	0.038390561
63	300829	0.003537	-0.018704	55803048	0.003530760	-0.018881132
64	300930	-0.124293	-0.149706	56116672	-0.132723719	-0.162173107
65	301031	-0.083715	-0.094972	49201924	-0.087427827	-0.099789397
66	301129	-0.026215	-0.024575	44922184	-0.026564739	-0.024882006
67	301231	-0.077141	-0.137330	43448472	-0.080278819	-0.147723048
68	310131	0.062279	0.141260	40919028	0.060416600	0.132132915

Appendix 1
Mean and Std.Deviation
(PD Normal and PD Lognormal)

	A	B	C	D	E	F
69	310228	0.108526	0.157572	43423364	0.103031205	0.146324708
70	310331	-0.064232	-0.063638	47946696	-0.066387696	-0.065753125
71	310430	-0.098385	-0.151230	44722732	-0.103567679	-0.163967036
72	310529	-0.132809	-0.140216	40340532	-0.142496027	-0.151074084
73	310630	0.137613	0.180091	34886172	0.128932208	0.165591554
74	310731	-0.063335	-0.070551	39246824	-0.065429585	-0.073163342
75	310831	0.000831	-0.018815	36847072	0.000830655	-0.018994254
76	310930	-0.290013	-0.312276	35772496	-0.342508619	-0.374367684
77	311031	0.080822	0.111163	25507868	0.077721863	0.105407215
78	311130	-0.089308	-0.082896	27523488	-0.093550529	-0.086316348
79	311231	-0.134515	-0.188422	24855190	-0.144485236	-0.208774778
80	320130	-0.010499	0.090269	21392814	-0.010554503	0.086424455
81	320229	0.057427	0.023571	21147816	0.055836599	0.023297494
82	320331	-0.109272	-0.117349	22178252	-0.115718173	-0.124825400
83	320430	-0.179969	-0.184639	19427102	-0.198413135	-0.204124319
84	320531	-0.206900	-0.199585	15894820	-0.231805962	-0.222624936
85	320630	-0.009229	0.046404	12592848	-0.009271851	0.045359524
86	320730	0.330888	0.432668	12247185	0.285846389	0.359538440
87	320831	0.364791	0.655073	16540356	0.311001303	0.503845117
88	320930	-0.030997	-0.053971	22480414	-0.031487571	-0.055482055
89	321031	-0.130379	-0.163908	21644448	-0.139697794	-0.179016624
90	321130	-0.054678	-0.073471	18788114	-0.056229669	-0.076309933
91	321231	0.044409	-0.036882	17673846	0.043451175	-0.037579341
92	330131	0.009721	0.039602	18303652	0.009674055	0.038837948
93	330228	-0.133144	-0.121133	18467450	-0.142882406	-0.129121701
94	330331	0.016823	0.059719	15777403	0.016683061	0.058003779
95	330429	0.382752	0.517847	15921161	0.324075716	0.417292883
96	330531	0.211063	0.803110	22045460	0.191498486	0.471945493
97	330630	0.133654	0.224552	26586868	0.125446044	0.202575063
98	330731	-0.095850	-0.092168	30131408	-0.100760003	-0.096695940
99	330831	0.122208	0.112933	27227572	0.115298173	0.106998873
100	330930	-0.105533	-0.149563	30465320	-0.111527269	-0.162004944
101	331031	-0.082208	-0.107623	27139684	-0.085784494	-0.113866590
102	331129	0.099766	0.088660	24913612	0.095097430	0.066405527
103	331230	0.020144	0.015002	27377742	0.019943794	0.014890583
104	340131	0.129657	0.317669	27951312	0.121914047	0.275864266
105	340228	-0.023533	0.010085	31513690	-0.023814323	0.010034486
106	340331	0.004781	0.007566	30666966	0.004769607	0.007537521
107	340430	-0.017990	0.001762	30689266	-0.018153787	0.001760449
108	340531	-0.070662	-0.106445	30123952	-0.073282774	-0.112547391
109	340630	0.025310	0.003478	27907796	0.024995008	0.003471966
110	340731	-0.108466	-0.185602	28492460	-0.114811704	-0.205306089
111	340831	0.059468	0.097822	25375276	0.057768895	0.093328217
112	340929	-0.002957	-0.010610	27018744	-0.002961381	-0.010666667
113	341031	-0.019245	-0.020939	26765116	-0.019432596	-0.021161330
114	341130	0.084419	0.127128	26391348	0.081044360	0.119672804
115	341231	0.004037	0.014980	28551382	0.004028873	0.014868908
116	350131	-0.031839	-0.029931	28531400	-0.032356883	-0.030388076
117	350228	-0.019409	-0.054802	27561350	-0.019599828	-0.056360850
118	350330	-0.037016	-0.075761	26901902	-0.037718482	-0.078784583
119	350430	0.089403	0.102132	25778924	0.085629840	0.097246486
120	350531	0.034776	0.024729	28063724	0.034184978	0.024428187
121	350629	0.055065	0.040692	28979510	0.053602376	0.039885876
122	350731	0.073148	0.111438	30279942	0.070596385	0.105654672
123	350831	0.027451	0.080755	32628552	0.027080978	0.077659871
124	350930	0.023790	0.023866	33365428	0.023511427	0.023585659
125	351031	0.069926	0.080740	34073052	0.067589487	0.077645992
126	351130	0.051928	0.145103	36238128	0.050624671	0.135494589
127	351231	0.045614	0.058796	37991604	0.044804273	0.058078437
128	360131	0.065814	0.149369	40049192	0.063738826	0.139213096
129	360229	0.025957	0.046577	42654520	0.025625836	0.045524839
130	360331	0.008470	0.004800	43455636	0.008434331	0.004788517
131	360430	-0.078200	-0.121373	43832276	-0.081426999	-0.129394817
132	360529	0.050488	0.051895	40790584	0.049254818	0.050593299
133	360630	0.025948	-0.000578	42493364	0.025617063	-0.000578167
134	360731	0.063287	0.081854	43490044	0.061365054	0.078676236
135	360831	0.011155	0.022220	46340128	0.011093242	0.021976733
136	360930	0.014725	0.033850	48713912	0.014617640	0.033289898

Appendix 1
 Mean and Std.Deviation
 (PD Normal and PD Lognormal)

	A	B	C	D	E	F
137	361031	0.069674	0.064899	47235768	0.067353929	0.062879959
138	361130	0.034182	0.090848	50417384	0.033610776	0.086955375
139	361231	0.001195	0.030084	51859120	0.001194287	0.029640352
140	370130	0.032489	0.075777	51681352	0.031972392	0.073043191
141	370227	0.013250	0.025389	53382836	0.013162987	0.025072053
142	370331	-0.004573	-0.000037	54123140	-0.004583488	-0.000037001
143	370430	-0.074617	-0.101248	53915112	-0.077547573	-0.106748145
144	370528	-0.008410	-0.023833	49942880	-0.008445564	-0.024121601
145	370630	-0.040592	-0.076140	49324960	-0.041438851	-0.079194734
146	370731	0.084348	0.098243	47297648	0.080978885	0.093711830
147	370831	-0.045229	-0.051581	51130004	-0.046283758	-0.052958891
148	370930	-0.134840	-0.192223	48739276	-0.144840818	-0.213469249
149	371030	-0.094845	-0.102088	42040544	-0.099849079	-0.107683211
150	371130	-0.082975	-0.108609	38108788	-0.086620544	-0.114972115
151	371231	-0.040771	-0.099962	34246280	-0.041625442	-0.105318294
152	380131	0.008260	0.043053	32521122	0.008226073	0.042151990
153	380228	0.057480	0.059460	32961492	0.055888719	0.057758344
154	380331	-0.236216	-0.285612	34876916	-0.269470252	-0.336328047
155	380430	0.145390	0.216070	28407210	0.135745190	0.195624348
156	380531	-0.038843	-0.070239	30339802	-0.039617512	-0.072827715
157	380630	0.235427	0.306153	29016974	0.211416659	0.267086176
158	380730	0.071722	0.121239	35894740	0.069266701	0.114434324
159	380831	-0.026933	-0.062467	38172724	-0.027302340	-0.064503322
160	380930	0.008828	-0.015390	37017728	0.008789261	-0.015509655
161	381031	0.077175	0.145201	37173332	0.074341873	0.135580167
162	381130	-0.018170	-0.036190	39985344	-0.018337102	-0.036861099
163	381231	0.040450	0.032274	39057844	0.039653312	0.031764136
164	390131	-0.059668	-0.075517	40459836	-0.061522275	-0.078520617
165	390228	0.034582	0.041026	38013588	0.033978149	0.040206765
166	390331	-0.118963	-0.172152	38942240	-0.126855656	-0.188925716
167	390429	-0.002590	0.001386	34161532	-0.002593360	0.001385040
168	390531	0.068617	0.086120	34285560	0.066365289	0.082611713
169	390630	-0.052998	-0.084583	36399092	-0.054454074	-0.088375580
170	390731	0.101109	0.134705	34365300	0.096317854	0.126372705
171	390831	-0.066033	-0.106282	37803632	-0.068314173	-0.112364990
172	390930	0.159534	0.392728	35114148	0.148018200	0.331264414
173	391031	-0.004183	-0.007336	40511096	-0.004191773	-0.007363041
174	391130	-0.036321	-0.080841	40317036	-0.036997027	-0.084296157
175	391230	0.030300	0.016323	38566360	0.029850022	0.016191212
176	400131	-0.024814	-0.018491	39570476	-0.025127057	-0.018664096
177	400229	0.014319	0.029496	38638216	0.014217451	0.029058649
178	400330	0.019001	0.026239	39020052	0.018822736	0.025900663
179	400430	0.001294	0.015530	39634840	0.001293164	0.015410644
180	400531	-0.220243	-0.268552	39574640	-0.248772946	-0.312729148
181	400629	0.066620	0.066308	30846150	0.064494770	0.064202215
182	400731	0.032315	0.036894	32573086	0.031803853	0.036229706
183	400831	0.023404	0.023333	33567352	0.023134326	0.023064947
184	400930	0.023219	0.037789	34128060	0.022953540	0.037092489
185	401031	0.029546	0.049223	34799480	0.029117928	0.048049890
186	401130	-0.016565	-0.002018	35769312	-0.016703734	-0.002020039
187	401231	0.007065	-0.017094	34845544	0.007040180	-0.017241789
188	410131	-0.040354	-0.006876	34892152	-0.041190813	-0.006899749
189	410228	-0.015118	-0.020483	33457798	-0.015233442	-0.020695686
190	410331	0.009670	0.016677	32751460	0.009621610	0.016539466
191	410430	-0.053011	-0.054966	32898634	-0.054467801	-0.056534373
192	410531	0.014334	0.009761	31108610	0.014232239	0.009713669
193	410630	0.056186	0.067057	31302294	0.056556121	0.064904392
194	410731	0.058581	0.128690	32909736	0.056929332	0.121057668
195	410830	0.000826	-0.005861	34763836	0.000825859	-0.005878243
196	410930	-0.007459	-0.021119	34893844	-0.007486957	-0.021345196
197	411031	-0.051514	-0.062217	34282548	-0.052888250	-0.064236700
198	411129	-0.019336	-0.033320	32465588	-0.019527425	-0.033887759
199	411231	-0.046332	-0.082162	31432372	-0.047439676	-0.085734375
200	420131	0.005752	0.130737	29786734	0.005735520	0.122869633
201	420228	-0.022771	-0.016513	29808330	-0.023034263	-0.016650859
202	420331	-0.065788	-0.052209	29037258	-0.068051886	-0.053621265
203	420430	-0.043131	-0.044389	26956520	-0.044088783	-0.045383424
204	420529	0.061413	0.030448	25741684	0.059601039	0.029993659

Appendix 1
Mean and Std.Deviation
(PD Normal and PD Lognormal)

	A	B	C	D	E	F
205	420630	0.025228	0.023985	27102726	0.024915027	0.023701878
206	420731	0.034788	0.045939	27581028	0.034198575	0.044915047
207	420831	0.018767	0.027825	28496560	0.018593073	0.027444919
208	420930	0.026204	0.048439	28854574	0.025866557	0.047302391
209	421031	0.067833	0.101545	28433254	0.065631361	0.096713740
210	421130	0.001819	-0.013671	31372446	0.001817348	-0.013765309
211	421231	0.049310	0.035660	31100486	0.048132805	0.035038905
212	430130	0.075026	0.167345	32362762	0.072344847	0.154731939
213	430227	0.059913	0.133544	34752680	0.058186829	0.125349008
214	430331	0.061395	0.112718	36675888	0.059584081	0.106805671
215	430430	0.006698	0.035419	38736040	0.006675668	0.034806176
216	430529	0.056962	0.084394	38920412	0.055398755	0.081021306
217	430630	0.016784	0.010798	40945260	0.016644705	0.010740118
218	430731	-0.046023	-0.063956	41446472	-0.047115717	-0.066092795
219	430831	0.012894	0.003063	40122120	0.012611580	0.003058319
220	430930	0.024130	0.034956	40345304	0.023843472	0.034358914
221	431030	-0.012327	-0.003973	41123616	-0.012403608	-0.003980913
222	431130	-0.058127	-0.088354	40684378	-0.059884833	-0.092503522
223	431231	0.063087	0.098474	37998540	0.061176940	0.093921944
224	440131	0.018126	0.045564	40046696	0.017963683	0.044556453
225	440229	0.004166	0.013878	40757592	0.004157346	0.013782582
226	440331	0.024130	0.041304	40749928	0.023843472	0.040473774
227	440429	-0.017288	-0.028921	41533124	-0.017439182	-0.029347455
228	440531	0.051940	0.066125	40781588	0.050636078	0.064030580
229	440630	0.056672	0.105428	42631468	0.055124347	0.100232590
230	440731	-0.015014	-0.012595	44773992	-0.015127851	-0.012674989
231	440831	0.015220	0.029196	44100532	0.015105338	0.028777915
232	440930	0.000314	0.000177	44646700	0.000313951	0.000176984
233	441031	0.002778	0.001415	44521072	0.002774148	0.001414000
234	441130	0.015399	0.022945	44588440	0.015281639	0.022685722
235	441230	0.042124	0.069483	44883588	0.041260938	0.067175354
236	450131	0.018266	0.042912	46753824	0.018101181	0.042016800
237	450228	0.065229	0.086519	47599392	0.063189600	0.082979008
238	450331	-0.038993	-0.056651	50483868	-0.039773586	-0.058318969
239	450430	0.077808	0.088953	48345936	0.074929349	0.085216684
240	450531	0.018436	0.029628	521110792	0.018268117	0.029197572
241	450630	0.003882	0.036966	52919192	0.003874484	0.036299142
242	450731	-0.022247	-0.035179	52988708	-0.022498197	-0.035812687
243	450831	0.060615	0.085361	51803004	0.058848929	0.063313709
244	450929	0.047955	0.062674	54688036	0.046840646	0.060788373
245	451031	0.039148	0.064648	57142140	0.038401147	0.062642350
246	451130	0.054569	0.097799	59417344	0.053132153	0.093307266
247	451231	0.011363	0.023899	62305952	0.011298926	0.023617889
248	460131	0.061834	0.094391	62922180	0.059997602	0.090198044
249	460228	-0.057580	-0.066914	67048040	-0.059304244	-0.069257907
250	460330	0.059506	0.058212	63054636	0.057802762	0.056580691
251	460430	0.040609	0.051697	66774184	0.039806119	0.050405050
252	460531	0.041604	0.054726	69539592	0.040761833	0.053281018
253	460628	-0.039062	-0.048994	72428968	-0.039845388	-0.050234907
254	460731	-0.025828	-0.040917	69455744	-0.026167400	-0.041777659
255	460830	-0.064133	-0.075395	67998848	-0.066281907	-0.078388660
256	460930	-0.100862	-0.135938	63483912	-0.106318752	-0.148110753
257	461031	-0.014064	-0.011594	58903972	-0.014163835	-0.011661734
258	461130	0.002492	-0.002688	56012352	0.002488900	-0.002691819
259	461231	0.050590	0.046884	55791064	0.049351911	0.045818133
260	470131	0.015135	0.030258	60038520	0.015021609	0.029809256
261	470228	-0.011755	-0.007465	61067116	-0.011824636	-0.007483003
262	470331	-0.016868	-0.029987	59960220	-0.017011885	-0.030445806
263	470430	-0.047786	-0.081542	59069964	-0.048985480	-0.085059102
264	470529	-0.010132	-0.037234	56202076	-0.010183678	-0.037944887
265	470630	0.053645	0.056983	55304032	0.052255581	0.055399702
266	470731	0.041413	0.081879	58116728	0.040578445	0.080039980
267	470829	-0.017547	-0.017199	60577604	-0.017702774	-0.017348621
268	470930	-0.004474	0.005749	59400068	-0.004484038	0.005732538
269	471031	0.024661	0.033143	58934824	0.024361826	0.032805612
270	471129	-0.018095	-0.029056	60287900	-0.018260717	-0.029486485
271	471231	0.029869	0.021860	58769696	0.029431610	0.021824496
272	480131	-0.037019	-0.015898	60541756	-0.037721597	-0.018025729

Appendix 1
Mean and Std.Deviation
(PD Normal and PD Lognormal)

	A	B	C	D	E	F
273	480228	-0.043558	-0.059801	58397864	-0.044535130	-0.061663724
274	480331	0.082635	0.096071	55529584	0.079397884	0.091731967
275	480430	0.037713	0.040865	59677652	0.037019253	0.040052098
276	480528	0.074452	0.087118	62183016	0.071810784	0.083530158
277	480630	0.000000	-0.012370	66451720	0.000000000	-0.012447145
278	480730	-0.050405	-0.053724	66045164	-0.051719701	-0.055220998
279	480831	0.003858	-0.001616	62661688	0.003850577	-0.001617307
280	480930	-0.028410	-0.042755	82491824	-0.028851145	-0.043695912
281	481030	0.059755	0.052888	60400000	0.058037749	0.051536865
282	481130	-0.090552	-0.106244	63853388	-0.094917457	-0.112322472
283	481231	0.032116	0.014177	57418572	0.031611084	0.014077446
284	490131	0.002959	0.017924	59042208	0.002954631	0.017765259
285	490228	-0.028716	-0.041333	59206396	-0.029136371	-0.042211501
286	490331	0.040833	0.058956	57221844	0.040021354	0.057283517
287	490430	-0.018052	-0.031821	59265616	-0.018216925	-0.032338291
288	490531	-0.027347	-0.042723	58140012	-0.027727889	-0.043662483
289	490630	0.003438	-0.007950	55615972	0.003432104	-0.007981770
290	490729	0.055466	0.062310	55420280	0.053982376	0.060445782
291	490831	0.026510	0.025764	59218412	0.026164899	0.025437701
292	490930	0.032073	0.043705	60376756	0.031569401	0.042776882
293	491031	0.031556	0.039276	62354264	0.031068342	0.038524317
294	491130	0.019216	0.010454	64184864	0.019033704	0.010399735
295	491231	0.052606	0.069966	64590076	0.051268994	0.067626872
296	500131	0.016316	0.040102	68196776	0.016184324	0.039318785
297	500228	0.014517	0.015658	68381272	0.014412637	0.015536678
298	500331	0.012156	-0.001788	69957208	0.012082709	-0.001789600
299	500429	0.040147	0.047735	70774080	0.039362049	0.046630691
300	500531	0.042938	0.032819	73506360	0.042041730	0.032291957
301	500630	-0.056538	-0.074923	76359104	-0.058199191	-0.077878302
302	500731	0.015950	0.050857	71794608	0.015824135	0.049606022
303	500831	0.050350	0.052352	72951640	0.049123442	0.051027659
304	500929	0.048811	0.054639	75942240	0.047657142	0.053198528
305	501031	-0.001401	-0.005599	79412960	-0.001401982	-0.005614733
306	501130	0.029023	0.032434	79246456	0.028609808	0.031919121
307	501230	0.057189	0.083956	80198512	0.055613499	0.080617312
308	510131	0.057915	0.076381	85504144	0.056299990	0.073604488
309	510228	0.015151	0.011537	90477696	0.015037370	0.011470956
310	510331	-0.021026	-0.033665	91437944	-0.021250195	-0.034244714
311	510430	0.049745	0.040659	89529656	0.048547278	0.039854166
312	510531	-0.022567	-0.025532	93935304	-0.022825532	-0.025863598
313	510629	-0.025210	-0.044952	91238864	-0.025533216	-0.045993678
314	510731	0.070916	0.063124	88991120	0.068514357	0.061211744
315	510831	0.045071	0.047509	95176864	0.044084826	0.046414965
316	510928	0.008989	0.023307	98683048	0.008948639	0.023039540
317	511031	-0.022363	-0.023429	99228536	-0.022816843	-0.023707823
318	511130	0.006005	0.007421	96787712	0.005967042	0.007393600
319	511231	0.034946	0.015198	98707360	0.034349251	0.015083667
320	520131	0.017031	0.017501	101455824	0.016887598	0.017348621
321	520229	-0.024816	-0.020726	103154888	-0.025129108	-0.020943798
322	520331	0.045415	0.029208	99882736	0.044413936	0.028789574
323	520430	-0.048719	-0.044818	104298368	-0.049945782	-0.045853381
324	520529	0.032570	0.023888	99110928	0.032050840	0.023607146
325	520630	0.039376	0.031099	101679360	0.038620533	0.030625224
326	520731	0.011904	0.011304	105400032	0.011833705	0.011240587
327	520829	-0.006970	-0.000286	106430352	-0.006994404	-0.000286041
328	520930	-0.019220	-0.015501	104949136	-0.019407106	-0.015622397
329	521031	-0.005267	-0.011474	102764048	-0.005280920	-0.011540334
330	521128	0.058960	0.055663	102041896	0.057287294	0.054168006
331	521231	0.031256	0.022709	107126864	0.030777477	0.022454989
332	530130	-0.001666	0.024362	111963872	-0.001667389	0.024069980
333	530227	-0.001633	0.011994	111684912	-0.001634335	0.011922642
334	530331	-0.013344	-0.010283	110716208	-0.013433831	-0.010336235
335	530430	-0.027384	-0.024130	108864320	-0.027765930	-0.024425896
336	530529	0.006736	0.005783	105884376	0.006713415	0.005766343
337	530630	-0.018281	-0.031458	106113608	-0.016414992	-0.031963431
338	530731	0.025195	0.017600	103963248	0.024882838	0.017446914
339	530831	-0.043995	-0.051682	106464272	-0.044892136	-0.053065380
340	530930	0.003065	-0.011163	100985016	0.003060312	-0.011225774

Appendix 1
Mean and Std. Deviation
(PD Normal and PD Lognormal)

	A	B	C	D	E	F
341	531030	0.047035	0.038012	100897120	0.045962360	0.037307345
342	531130	0.028259	0.021337	105391264	0.027867081	0.021112553
343	531231	0.000668	-0.015614	107549544	0.000667777	-0.015737182
344	540129	0.050581	0.071321	108963688	0.048343344	0.068892466
345	540226	0.019202	0.013861	114381024	0.019019968	0.013765815
346	540331	0.037774	0.029353	115752584	0.037078035	0.028930450
347	540430	0.042626	0.016388	119662312	0.041742531	0.016255166
348	540528	0.031362	0.043192	124706192	0.030880259	0.042285243
349	540630	0.011370	0.012067	127875848	0.011305847	0.011994774
350	540730	0.050421	0.072137	128915584	0.049191036	0.069653853
351	540831	-0.022528	-0.009242	135017328	-0.022785632	-0.009284972
352	540930	0.064310	0.044130	131273384	0.062328702	0.043184003
353	541029	-0.016237	-0.006628	139261424	-0.016370265	-0.006650063
354	541130	0.089950	0.092005	136861376	0.091621567	0.088015456
355	541231	0.055287	0.088119	148634896	0.053812768	0.084450517
356	550131	0.007071	0.014081	160038016	0.007046118	0.013982784
357	550228	0.031377	0.042937	161193648	0.030894803	0.042040772
358	550331	-0.001187	0.000939	165740000	-0.001187705	0.000938559
359	550429	0.032271	0.022228	165032288	0.031761229	0.021984559
360	550531	0.011918	0.008069	170052000	0.011847540	0.008036620
361	550630	0.065856	0.034707	171085056	0.063778232	0.034118295
362	550729	0.020050	0.007847	182085552	0.019851646	0.007816372
363	550831	0.004367	0.005689	185874000	0.004357492	0.005872879
364	550930	-0.002247	-0.007778	185725040	-0.002249528	-0.007808406
365	551031	-0.025894	-0.017728	184708992	-0.026029856	-0.017887023
366	551130	0.071576	0.055276	179826992	0.069130462	0.053802344
367	551230	0.016534	0.023036	191014320	0.016398802	0.022774677
368	560131	-0.028041	-0.020721	197858880	-0.028441656	-0.020938692
369	560229	0.039581	0.033669	192090128	0.038817747	0.033114609
370	560329	0.068140	0.051392	198825504	0.065918818	0.050115000
371	560430	0.005029	0.003773	215003264	0.005016397	0.003765900
372	560531	-0.049621	-0.039689	215910768	-0.050894427	-0.040498089
373	560629	0.037353	0.021538	204016560	0.036872276	0.021309335
374	560731	0.051023	0.039859	210944976	0.049763976	0.039085127
375	560831	-0.028948	-0.017285	221229408	-0.028375259	-0.017436130
376	560928	-0.049928	-0.036113	213798800	-0.051217508	-0.036781211
377	561031	0.007153	0.006800	203119792	0.007127539	0.006776984
378	561130	0.007393	0.010743	204152160	0.007365806	0.010685704
379	561231	0.030407	0.017636	204223856	0.029953870	0.017482290
380	570131	-0.031261	0.003465	213835264	-0.031760053	0.003459011
381	570228	-0.018445	-0.023077	207234592	-0.018617230	-0.023347443
382	570329	0.023694	0.022234	202726192	0.023417654	0.021990428
383	570430	0.044984	0.025821	207104032	0.044001574	0.025493268
384	570531	0.035899	0.021544	216530144	0.035269649	0.021315208
385	570628	-0.005829	-0.006752	223729504	-0.005846055	-0.006774898
386	570731	0.009607	0.005961	221998544	0.009581146	0.005943304
387	570830	-0.049625	-0.049852	224278928	-0.050898635	-0.051137517
388	570930	-0.057748	-0.052206	212216544	-0.059482524	-0.053618100
389	571031	-0.041456	-0.066185	199259072	-0.042339812	-0.068476933
390	571129	0.024297	0.020887	191000840	0.024006524	0.020671857
391	571231	-0.037999	-0.048891	194588896	-0.038739789	-0.050126607
392	580131	0.050093	0.106346	189277072	0.048876732	0.101062693
393	580228	-0.013997	-0.011798	198385536	-0.014095882	-0.011868149
394	580331	0.033490	0.035981	194323808	0.032941424	0.035348804
395	580430	0.030427	0.030149	200815264	0.029973279	0.029703452
396	580529	0.024628	0.039282	206718592	0.024329620	0.038530090
397	580630	0.029478	0.031810	210414448	0.029051878	0.031314542
398	580731	0.045035	0.054290	216050352	0.044050378	0.052867555
399	580829	0.018718	0.029916	224826496	0.018544874	0.029477248
400	580930	0.049300	0.052458	227969504	0.048123275	0.051128381
401	581031	0.028994	0.032455	238819152	0.028639089	0.031939461
402	581128	0.030391	0.042046	244790224	0.029938342	0.041186088
403	581231	0.053243	0.039062	251190800	0.051873976	0.038318383
404	580130	0.009579	0.041488	270423520	0.009533412	0.040650480
405	590227	0.011203	0.027492	273419104	0.011140711	0.027120881
406	590331	0.004896	0.012793	274907424	0.004884054	0.012711861
407	590430	0.039156	0.025591	275742112	0.038408845	0.025269032
408	590529	0.020046	0.007587	286888928	0.019847724	0.007558383

Appendix 1
Mean and Std.Deviation
(PD Normal and PD Lognormal)

	A	B	C	D	E	F
408	590630	0.001206	0.004492	291619520	0.001205273	0.004481841
410	590731	0.034271	0.030152	291203072	0.033696831	0.029706364
411	590831	-0.011601	-0.015067	301206368	-0.011668817	-0.015181660
412	590930	-0.044757	-0.045901	296207296	-0.045789521	-0.046987839
413	591030	0.015253	0.023218	282211072	0.015137843	0.022952563
414	591130	0.018226	0.014870	286843488	0.018061897	0.014760525
415	591231	0.029019	0.021240	290636064	0.028605921	0.021017575
416	600129	-0.067264	-0.039103	302870496	-0.069633076	-0.039888056
417	600229	0.012459	0.008127	282340224	0.012382025	0.008094154
418	600331	-0.012115	-0.024466	284950272	-0.012188985	-0.024770266
419	600429	-0.015449	-0.019194	280929184	-0.015569579	-0.019380596
420	600531	0.033281	0.025325	276820096	0.032739176	0.025009636
421	600630	0.023131	0.021360	284845408	0.022867534	0.021135073
422	600729	-0.020766	-0.018074	290805248	-0.020984646	-0.018239330
423	600831	0.030049	0.034957	285061856	0.029606374	0.034359880
424	600930	-0.058107	-0.058797	292443616	-0.058863599	-0.060596435
425	601031	-0.004575	-0.022993	275069280	-0.004585497	-0.023261462
426	601130	0.047922	0.046582	273448800	0.046809156	0.045529616
427	601230	0.048077	0.037387	284910240	0.046957056	0.036705052
428	610131	0.064465	0.082388	302147136	0.062472326	0.079169711
429	610228	0.037091	0.059865	321333440	0.036419879	0.058141542
430	610330	0.030962	0.050442	331997856	0.030492347	0.049211028
431	610428	0.005852	0.009411	342973952	0.005834944	0.009366992
432	610531	0.025904	0.041767	345242048	0.025574175	0.040918310
433	610630	-0.028474	-0.042383	352789632	-0.028887248	-0.043307372
434	610731	0.030708	0.011543	342509760	0.030245945	0.011476888
435	610831	0.027137	0.021117	353885472	0.026775320	0.020897126
436	610929	-0.018754	-0.029770	362031232	-0.018932066	-0.030222122
437	611031	0.027114	0.021105	354978912	0.026752928	0.020885374
438	611130	0.048075	0.046300	384151904	0.045045085	0.045260131
439	611229	0.000667	-0.003514	379163200	0.000666778	-0.003520189
440	MEAN =	0.009878343	0.014130764	MEAN =	0.007789118	0.010262679
441	STDEV =	0.064491050	0.091064995	STDEV =	0.064189532	0.086019689

Appendix 2
PDF Value Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
1							Normal	Lognormal			
2	Combined nysa/amex and nanysa/amex and nasdaq indices between 251231 and 971231					MEAN =	0.009878	0.007789			
3						STDEV =	0.064491	0.064190			
4											
5	Date	Value Weighted	Value Weighted	Value Weighted	Value Weighted	Value Weighted					
6	(YYMMDD)	Return	1+return	ln(1+return)	PD Normal	PD Lognormal	L1/L2	L2/L1	λ		
7											
8	620131	-0.036341	0.963659	-0.037018	4.784954	5.054930	0.9466	1.0564	1.0564	$L1 = L1$	
9	620228	0.019038	1.019038	0.018859	6.123930	6.008931	0.9647	1.0366	1.0366	$\lambda = 28.4058$	
10	620330	-0.005640	0.994360	-0.005656	6.009487	6.114702	0.9481	1.0547	1.0547	Accept PD Normal	
11	620430	-0.062734	0.937266	-0.064788	3.281932	3.499275	0.8892	1.1246	1.1246		
12	620531	-0.084534	0.915466	-0.088322	2.118483	2.212981	0.8512	1.1747	1.1747		
13	620829	-0.082724	0.917276	-0.086347	2.206470	2.311660	0.8125	1.2307	1.2307		
14	620731	0.066076	1.066076	0.063985	4.231765	3.974008	0.8652	1.1558	1.1558		
15	620831	0.023381	1.023381	0.023112	6.051897	5.902484	0.8871	1.1272	1.1272		
16	620928	-0.050120	0.949880	-0.051420	4.012955	4.275841	0.8326	1.2011	1.2011		
17	621031	0.002122	1.002122	0.002120	6.141431	6.177764	0.8277	1.2082	1.2082		
18	621130	0.110113	1.110113	0.104462	1.848653	1.801141	0.8495	1.1771	1.1771		
19	621231	0.011852	1.011852	0.011782	6.183114	6.130396	0.8568	1.1671	1.1671		
20	630131	0.051843	1.051843	0.050544	5.005722	4.733230	0.9061	1.1036	1.1036		
21	630228	-0.021927	0.978073	-0.022171	5.477669	5.698611	0.8710	1.1481	1.1481		
22	630329	0.032926	1.032926	0.032396	5.803324	5.590709	0.9041	1.1060	1.1060		
23	630430	0.047437	1.047437	0.046346	5.221078	4.954145	0.9529	1.0495	1.0495		
24	630531	0.020033	1.020033	0.019835	6.109798	5.986658	0.9724	1.0283	1.0283		
25	630628	-0.018028	0.981972	-0.018192	5.633148	5.831371	0.9394	1.0645	1.0645		
26	630731	-0.001699	0.998301	-0.001700	6.087131	6.157983	0.9286	1.0769	1.0769		
27	630830	0.052685	1.052685	0.051344	4.962952	4.689973	0.9826	1.0177	1.0177		
28	630930	-0.011904	0.988096	-0.011975	5.843034	5.988731	0.9571	1.0448	1.0448		
29	631031	0.027730	1.027730	0.027352	5.953498	5.772933	0.9871	1.0131	1.0131		
30	631129	-0.005551	0.994449	-0.005566	6.011477	6.115935	0.9702	1.0307	1.0307		
31	631231	0.021737	1.021737	0.021504	6.082308	5.945569	0.9925	1.0075	1.0075		
32	640131	0.025795	1.025795	0.025468	6.000448	5.833294	1.0210	0.9795	1.0210		
33	640228	0.017170	1.017170	0.017024	6.146596	6.047244	1.0377	0.9636	1.0377		
34	640331	0.017651	1.017651	0.017497	6.141244	6.037820	1.0555	0.9474	1.0555		
35	640430	0.004622	1.004622	0.004611	6.165497	6.178897	1.0532	0.9495	1.0532		
36	640528	0.017412	1.017412	0.017262	6.143946	6.042541	1.0709	0.9338	1.0709		
37	640630	0.015080	1.015080	0.014967	6.165921	6.084571	1.0852	0.9215	1.0852		
38	640731	0.020128	1.020128	0.019928	6.108374	5.984465	1.1077	0.9028	1.1077		
39	640831	-0.011268	0.988732	-0.011332	5.862244	6.013103	1.0799	0.9260	1.0799		
40	640930	0.030462	1.030462	0.030007	5.878816	5.680648	1.1176	0.8948	1.1176		
41	641030	0.008859	1.008859	0.008820	6.185237	6.159697	1.1222	0.8911	1.1222		
42	641130	0.003090	1.003090	0.003085	6.151835	6.179308	1.1172	0.8951	1.1172		
43	641231	0.003714	1.003714	0.003707	6.157816	6.179562	1.1133	0.8982	1.1133		
44	650129	0.038648	1.038648	0.037920	5.600110	5.359589	1.1632	0.8597	1.1632		
45	650226	0.006951	1.006951	0.006927	6.179641	6.171608	1.1648	0.8586	1.1648		

Appendix 2
PDF Value Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
46	650331	-0.009732	0.990268	-0.009780	5.906529	6.045414	1.1380	0.8787	1.1380		
47	650430	0.033639	1.033639	0.033086	5.780087	5.563556	1.1823	0.8458	1.1823		
48	650528	-0.004347	0.995653	-0.004356	6.037336	6.131455	1.1641	0.8590	1.1641		
49	650630	-0.051859	0.948141	-0.053252	3.912113	4.170657	1.0920	0.9158	1.0920		
50	650730	0.016723	1.016723	0.016585	6.151267	6.055724	1.1092	0.9016	1.1092		
51	650831	0.030879	1.030879	0.030412	5.866573	5.665862	1.1485	0.8707	1.1485		
52	650930	0.031935	1.031935	0.031436	5.834593	5.627620	1.1907	0.8398	1.1907		
53	651029	0.029282	1.029282	0.028861	5.912258	5.721495	1.2304	0.8127	1.2304		
54	651130	0.003047	1.003047	0.003042	6.151402	6.179269	1.2249	0.8164	1.2249		
55	651231	0.013540	1.013540	0.013449	6.176047	6.108247	1.2385	0.8074	1.2385		
56	660131	0.012107	1.012107	0.012034	6.182317	6.127307	1.2496	0.8003	1.2496		
57	660228	-0.008637	0.991363	-0.008675	5.936248	6.066361	1.2228	0.8178	1.2228		
58	660331	-0.020912	0.979088	-0.021134	5.519668	5.735051	1.1769	0.8497	1.1769		
59	660429	0.024809	1.024809	0.024506	6.022429	5.862390	1.2090	0.8271	1.2090		
60	660531	-0.052499	0.947501	-0.053927	3.874933	4.131705	1.1339	0.8819	1.1339		
61	660630	-0.010316	0.989684	-0.010370	5.890046	6.033530	1.1069	0.9034	1.1069		
62	660729	-0.012877	0.987123	-0.012961	5.812673	5.975630	1.0767	0.9288	1.0767		
63	660831	-0.075347	0.924653	-0.078337	2.583385	2.732388	1.0180	0.9823	1.0180		
64	660930	-0.006954	0.993046	-0.006978	5.978855	6.095137	0.9986	1.0014	1.0014		
65	661031	0.042323	1.042323	0.041452	5.450687	5.196642	1.0474	0.9547	1.0474		
66	661130	0.017506	1.017506	0.017355	6.142893	6.040694	1.0651	0.9389	1.0651		
67	661230	0.006209	1.006209	0.006190	6.176005	6.174799	1.0653	0.9387	1.0653		
68	670131	0.085511	1.085511	0.082051	3.109944	2.932049	1.1300	0.8850	1.1300		
69	670228	0.010936	1.010936	0.010877	6.185178	6.140727	1.1381	0.8786	1.1381		
70	670331	0.043404	1.043404	0.042488	5.404157	5.146809	1.1950	0.8368	1.1950		
71	670428	0.041599	1.041599	0.040757	5.481213	5.229553	1.2526	0.7984	1.2526		
72	670531	-0.039348	0.960652	-0.040143	4.622673	4.895506	1.1828	0.8455	1.1828		
73	670630	0.026870	1.026870	0.026515	5.974983	5.800285	1.2184	0.8208	1.2184		
74	670731	0.049167	1.049167	0.047997	5.138295	4.868572	1.2859	0.7777	1.2859		
75	670831	-0.006223	0.993777	-0.006242	5.996184	6.106336	1.2627	0.7920	1.2627		
76	670929	0.034284	1.034284	0.033709	5.758539	5.538571	1.3128	0.7617	1.3128		
77	671031	-0.027414	0.972586	-0.027797	5.233604	5.479975	1.2538	0.7976	1.2538		
78	671130	0.007906	1.007906	0.007875	6.183118	6.166311	1.2572	0.7954	1.2572		
79	671229	0.033698	1.033698	0.033143	5.778136	5.561287	1.3062	0.7656	1.3062		
80	680131	-0.036354	0.963646	-0.037031	4.784262	5.054257	1.2365	0.8088	1.2365		
81	680229	-0.033612	0.966388	-0.034190	4.927875	5.193035	1.1733	0.8523	1.1733		
82	680329	0.005099	1.005099	0.005086	6.169046	6.178057	1.1716	0.8535	1.1716		
83	680430	0.094149	1.094149	0.089977	2.634132	2.502519	1.2332	0.8109	1.2332		
84	680531	0.027030	1.027030	0.026671	5.971060	5.795260	1.2706	0.7870	1.2706		
85	680628	0.011513	1.011513	0.011447	6.184023	6.134358	1.2809	0.7807	1.2809		
86	680730	-0.022022	0.977978	-0.022268	5.473686	5.695135	1.2311	0.8123	1.2311		
87	680830	0.018042	1.018042	0.017881	6.136646	6.029933	1.2529	0.7981	1.2529		
88	680930	0.044442	1.044442	0.043483	5.358434	5.098206	1.3169	0.7594	1.3169		
89	681031	0.009049	1.009049	0.009008	6.185499	6.158221	1.3227	0.7560	1.3227		
90	681129	0.058508	1.058508	0.056860	4.655235	4.383755	1.4046	0.7119	1.4046		

Appendix 2
PDF Value Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
91	681231	-0.033887	0.966113	-0.034474	4.913680	5.179422	1.3325	0.7504	1.3325		
92	690131	-0.006708	0.993292	-0.006731	5.984767	6.098994	1.3076	0.7648	1.3076		
93	690228	-0.053627	0.946373	-0.055118	3.809347	4.062776	1.2260	0.8156	1.2260		
94	690328	0.030489	1.030489	0.030033	5.878030	5.679696	1.2688	0.7881	1.2688		
95	690430	0.020545	1.020545	0.020337	6.101973	5.974700	1.2959	0.7717	1.2959		
96	690529	0.005045	1.005045	0.005032	6.168661	6.178169	1.2939	0.7729	1.2939		
97	690630	-0.067361	0.932639	-0.069737	3.019457	3.213496	1.2157	0.8225	1.2157		
98	690731	-0.065164	0.934836	-0.067384	3.143377	3.348814	1.1412	0.8763	1.1412		
99	690829	0.051470	1.051470	0.050189	5.024513	4.752295	1.2065	0.8288	1.2065		
100	690930	-0.022582	0.977418	-0.022841	5.450020	5.674411	1.1588	0.8629	1.1588		
101	691031	0.055638	1.055638	0.054143	4.809443	4.536177	1.2286	0.8139	1.2286		
102	691128	-0.032160	0.967840	-0.032688	5.001999	5.263730	1.1675	0.8565	1.1675		
103	691231	-0.019674	0.980326	-0.019870	5.569463	5.777723	1.1255	0.8885	1.1255		
104	700130	-0.073248	0.926752	-0.076069	2.695496	2.856740	1.0619	0.9417	1.0619		
105	700227	0.056714	1.056714	0.055164	4.752076	4.479247	1.1266	0.8876	1.1266		
106	700331	-0.004723	0.995277	-0.004734	6.029474	6.126839	1.1087	0.9020	1.1087		
107	700430	-0.105318	0.894682	-0.111287	1.254789	1.243117	1.1191	0.8936	1.1191		
108	700529	-0.064342	0.935658	-0.066505	3.190086	3.399638	1.0501	0.9523	1.0501		
109	700630	-0.051074	0.948926	-0.052424	3.957673	4.218264	0.9853	1.0150	1.0150		
110	700731	0.074198	1.074198	0.071574	3.761976	3.531353	1.0496	0.9527	1.0496		
111	700831	0.050040	1.050040	0.048828	5.095628	4.824796	1.1085	0.9021	1.1085		
112	700930	0.047495	1.047495	0.046402	5.218342	4.951302	1.1683	0.8559	1.1683		
113	701030	-0.018162	0.981838	-0.018329	5.628074	5.827137	1.1284	0.8862	1.1284		
114	701130	0.050452	1.050452	0.049221	5.075292	4.804006	1.1921	0.8388	1.1921		
115	701231	0.060708	1.060708	0.058937	4.534376	4.265584	1.2672	0.7891	1.2672		
116	710129	0.052018	1.052018	0.050710	4.996873	4.724264	1.3404	0.7461	1.3404		
117	710228	0.016903	1.016903	0.016762	6.149422	6.052341	1.3619	0.7343	1.3619		
118	710331	0.044791	1.044791	0.043817	5.342837	5.081706	1.4318	0.6984	1.4318		
119	710430	0.033328	1.033328	0.032785	5.790298	5.575460	1.4870	0.6725	1.4870		
120	710528	-0.036389	0.963611	-0.037068	4.782401	5.052443	1.4075	0.7105	1.4075		
121	710630	0.003127	1.003127	0.003122	6.152206	6.179339	1.4014	0.7136	1.4014		
122	710730	-0.040278	0.959722	-0.041112	4.571593	4.844795	1.3223	0.7562	1.3223		
123	710831	0.042504	1.042504	0.041626	5.442975	5.188355	1.3872	0.7209	1.3872		
124	710930	-0.005009	0.994991	-0.005022	6.023364	6.123188	1.3646	0.7328	1.3646		
125	711029	-0.040689	0.959311	-0.041519	4.550004	4.823289	1.2873	0.7768	1.2873		
126	711130	-0.001259	0.998741	-0.001260	6.094449	6.161374	1.2733	0.7854	1.2733		
127	711231	0.091246	1.091246	0.087320	2.790890	2.643468	1.3443	0.7439	1.3443		
128	720131	0.028383	1.028383	0.027988	5.936530	5.751612	1.3875	0.7207	1.3875		
129	720229	0.031331	1.031331	0.030850	5.853055	5.649633	1.4375	0.6957	1.4375		
130	720330	0.008732	1.008732	0.008694	6.185033	6.160655	1.4432	0.6929	1.4432		
131	720428	0.005491	1.005491	0.005476	6.171712	6.177115	1.4419	0.6935	1.4419		
132	720531	0.016376	1.016376	0.016243	6.154692	6.062121	1.4639	0.6831	1.4639		
133	720630	-0.020898	0.979102	-0.021119	5.520240	5.735545	1.4090	0.7097	1.4090		
134	720731	-0.004248	0.995752	-0.004257	6.039373	6.132635	1.3876	0.7207	1.3876		
135	720831	0.035977	1.035977	0.035345	5.699650	5.471142	1.4455	0.6918	1.4455		

Appendix 2
PDF Value Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
136	720828	-0.007667	0.982333	-0.007697	5.961263	6.083454	1.4165	0.7060	1.4165		
137	721031	0.006682	1.006682	0.006645	6.184946	6.161026	1.4220	0.7032	1.4220		
138	721130	0.049764	1.049764	0.048565	5.109180	4.838677	1.5015	0.6660	1.5015		
139	721229	0.011244	1.011244	0.011181	6.184623	6.137387	1.5130	0.6609	1.5130		
140	730131	-0.027653	0.972347	-0.028043	5.222365	5.469659	1.4446	0.6922	1.4446		
141	730228	-0.044493	0.955507	-0.045513	4.335753	4.607643	1.3594	0.7356	1.3594		
142	730330	-0.007944	0.992056	-0.007976	5.954246	6.078713	1.3315	0.7510	1.3315		
143	730430	-0.051737	0.948263	-0.053123	3.919198	4.178069	1.2490	0.8006	1.2490		
144	730531	-0.024496	0.975504	-0.024801	5.366848	5.600687	1.1969	0.8355	1.1969		
145	730629	-0.008699	0.991301	-0.008737	5.934607	6.085222	1.1711	0.8539	1.1711		
146	730731	0.057111	1.057111	0.055540	4.730789	4.581822	1.2427	0.8047	1.2427		
147	730831	-0.029644	0.970356	-0.030092	5.126931	5.381305	1.1840	0.8446	1.1840		
148	730928	0.053994	1.053994	0.052587	4.895528	4.622151	1.2540	0.7974	1.2540		
149	731031	-0.000307	0.999693	-0.000307	6.109340	6.167721	1.2421	0.8051	1.2421		
150	731130	-0.120883	0.879117	-0.128837	0.791941	0.733881	1.3404	0.7460	1.3404		
151	731231	0.011442	1.011442	0.011377	6.184192	6.135168	1.3511	0.7401	1.3511		
152	740131	0.005024	1.005024	0.005011	6.168510	6.178212	1.3490	0.7413	1.3490		
153	740228	0.002618	1.002618	0.002615	6.146933	6.178730	1.3421	0.7451	1.3421		
154	740329	-0.022880	0.977120	-0.023146	5.437301	5.663226	1.2885	0.7761	1.2885		
155	740430	-0.046381	0.953619	-0.047491	4.228238	4.498000	1.2112	0.8256	1.2112		
156	740531	-0.041966	0.958034	-0.042872	4.477939	4.751196	1.1416	0.8760	1.1416		
157	740628	-0.022942	0.977058	-0.023209	5.434644	5.660885	1.0960	0.9124	1.0960		
158	740731	-0.070891	0.929109	-0.073529	2.823628	2.998328	1.0321	0.9689	1.0321		
159	740830	-0.087741	0.912259	-0.091831	1.967304	2.043159	0.9938	1.0063	0.9938		
160	740930	-0.109710	0.890290	-0.116206	1.108493	1.060458	1.0196	0.9808	1.0196		
161	741031	0.165619	1.165619	0.153252	0.334999	0.409018	0.8351	1.1975	1.1975		
162	741129	-0.040942	0.959058	-0.041804	4.534892	4.808210	0.7876	1.2697	1.2697		
163	741231	-0.027001	0.972999	-0.027372	5.252913	5.497650	0.7525	1.3288	1.3288		
164	750131	0.141415	1.141415	0.132269	0.772814	0.830573	0.7002	1.4282	1.4282		
165	750228	0.058612	1.058612	0.056959	4.649572	4.378194	0.7436	1.3448	1.3448		
166	750331	0.030159	1.030159	0.029713	5.887573	5.691277	0.7692	1.3000	1.3000		
167	750430	0.046418	1.046418	0.045373	5.268696	5.003768	0.8100	1.2346	1.2346		
168	750530	0.055161	1.055161	0.053693	4.834511	4.581144	0.8585	1.1648	1.1648		
169	750630	0.051587	1.051587	0.050300	5.018629	4.746321	0.9078	1.1016	1.1016		
170	750731	-0.060448	0.939552	-0.062352	3.413419	3.641186	0.8510	1.1751	1.1751		
171	750829	-0.023613	0.976387	-0.023896	5.405651	5.635250	0.8163	1.2250	1.2250		
172	750930	-0.037963	0.962037	-0.039702	4.697991	4.969826	0.7717	1.2959	1.2959		
173	751031	0.056040	1.056040	0.054526	4.788020	4.514884	0.8184	1.2220	1.2220		
174	751128	0.031163	1.031163	0.030687	5.858109	5.655690	0.8476	1.1797	1.1797		
175	751231	-0.011013	0.988987	-0.011074	5.869804	6.018702	0.8267	1.2097	1.2097		
176	760130	0.125954	1.125954	0.118631	1.242485	1.242905	0.8144	1.2279	1.2279		
177	760227	0.007168	1.007168	0.007142	6.180549	6.170522	0.8157	1.2259	1.2259		
178	760331	0.026807	1.026807	0.026454	5.976518	5.802256	0.8402	1.1901	1.1901		
179	760430	-0.010483	0.989517	-0.010538	5.885252	6.030041	0.8201	1.2194	1.2194		
180	760528	-0.008362	0.990638	-0.009406	5.916745	6.052687	0.8016	1.2474	1.2474		

Appendix 2
PDF Value Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
181	760630	0.044445	1.044445	0.043486	5.358300	5.098065	0.8426	1.1868	1.1868		
182	760730	-0.006112	0.993888	-0.006131	5.998752	6.107968	0.8275	1.2085	1.2085		
183	760831	-0.001385	0.998615	-0.001386	6.092381	6.160433	0.8184	1.2220	1.2220		
184	760930	0.024500	1.024500	0.024205	6.029044	5.871273	0.8404	1.1900	1.1900		
185	761029	-0.020399	0.979601	-0.020610	5.540496	5.752972	0.8093	1.2356	1.2356		
186	761130	0.005581	1.005581	0.005565	6.172292	6.176866	0.8087	1.2365	1.2365		
187	761231	0.061599	1.061599	0.059776	4.484840	4.217451	0.8600	1.1628	1.1628		
188	770131	-0.036351	0.963649	-0.037028	4.784422	5.054412	0.8141	1.2284	1.2284		
189	770228	-0.015762	0.984238	-0.015888	5.715921	5.899319	0.7887	1.2678	1.2678		
190	770331	-0.009253	0.990747	-0.009296	5.919721	6.054792	0.7711	1.2968	1.2968		
191	770429	0.004958	1.004958	0.004946	6.168032	6.178341	0.7699	1.2989	1.2989		
192	770531	-0.010791	0.989209	-0.010850	5.876318	6.023501	0.7511	1.3315	1.3315		
193	770630	0.051359	1.051359	0.050084	5.030086	4.757956	0.7940	1.2594	1.2594		
194	770729	-0.012810	0.987190	-0.012893	5.814801	5.977264	0.7724	1.2946	1.2946		
195	770831	-0.013361	0.986639	-0.013451	5.797138	5.963640	0.7509	1.3318	1.3318		
196	770930	0.001573	1.001573	0.001572	6.134925	6.176267	0.7458	1.3408	1.3408		
197	771031	-0.039287	0.960713	-0.040080	4.626009	4.898810	0.7043	1.4198	1.4198		
198	771130	0.045428	1.045428	0.044426	5.314085	5.051387	0.7409	1.3497	1.3497		
199	771230	0.008208	1.008208	0.008174	6.183935	6.164359	0.7433	1.3454	1.3454		
200	780131	-0.055196	0.944804	-0.056778	3.718070	3.966397	0.6967	1.4352	1.4352		
201	780228	-0.009274	0.990726	-0.009317	5.919149	6.054388	0.6812	1.4680	1.4680		
202	780331	0.033999	1.033999	0.033434	5.768122	5.549660	0.7080	1.4124	1.4124		
203	780428	0.082847	1.082847	0.079594	3.261529	3.070107	0.7521	1.3295	1.3295		
204	780531	0.023228	1.023228	0.022960	6.054926	5.906688	0.7710	1.2970	1.2970		
205	780630	-0.010751	0.989249	-0.010809	5.877485	6.024358	0.7522	1.3294	1.3294		
206	780731	0.056740	1.056740	0.055189	4.750685	4.477869	0.7980	1.2531	1.2531		
207	780831	0.042351	1.042351	0.041479	5.449496	5.195361	0.8371	1.1946	1.1946		
208	780929	-0.006892	0.993108	-0.006916	5.980353	6.096117	0.8212	1.2177	1.2177		
209	781031	-0.110991	0.889009	-0.117648	1.068196	1.035869	0.8468	1.1809	1.1809		
210	781130	0.033788	1.033788	0.033230	5.775153	5.557819	0.8799	1.1365	1.1365		
211	781229	0.017714	1.017714	0.017559	6.140518	6.036563	0.8951	1.1172	1.1172		
212	790131	0.049352	1.049352	0.048173	5.129302	4.859327	0.9448	1.0584	1.0584		
213	790228	-0.026854	0.973346	-0.027016	5.269025	5.512353	0.9031	1.1073	1.1073		
214	790330	0.065635	1.065635	0.063571	4.256957	3.998067	0.9616	1.0399	1.0399		
215	790430	0.008533	1.008533	0.008497	6.184664	6.162109	0.9651	1.0362	1.0362		
216	790531	-0.013516	0.986484	-0.013608	5.792102	5.959730	0.9380	1.0661	1.0661		
217	790629	0.046801	1.046801	0.045739	5.250895	4.985187	0.9880	1.0122	1.0122		
218	790731	0.014933	1.014933	0.014823	6.167039	6.086972	1.0009	0.9991	1.0009		
219	790831	0.064850	1.064850	0.062834	4.301674	4.040865	1.0656	0.9385	1.0656		
220	790928	0.001366	1.001366	0.001365	6.132358	6.175585	1.0581	0.9451	1.0581		
221	791031	-0.072639	0.927361	-0.075412	2.728384	2.893138	0.9978	1.0022	1.0022		
222	791130	0.063499	1.063499	0.061564	4.378216	4.114400	1.0618	0.9418	1.0618		
223	791231	0.028026	1.028026	0.027640	5.945876	5.763327	1.0955	0.9129	1.0955		
224	800131	0.065478	1.065478	0.063424	4.265914	4.006630	1.1663	0.8574	1.1663		
225	800229	0.000810	1.000810	0.000810	6.125156	6.173436	1.1572	0.8641	1.1572		

Appendix 2
PDF Value Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
226	800331	-0.120111	0.879889	-0.127960	0.811340	0.754822	1.2439	0.8039	1.2439		
227	800430	0.052391	1.052391	0.051065	4.977941	4.293111	1.3160	0.7599	1.3160		
228	800530	0.060184	1.060184	0.058442	4.563356	4.293823	1.3986	0.7150	1.3986		
229	800630	0.037640	1.037640	0.036949	5.638605	5.402405	1.4598	0.6850	1.4598		
230	800731	0.069260	1.069260	0.066967	4.048629	3.800149	1.5552	0.6430	1.5552		
231	800829	0.023526	1.023526	0.023254	6.049034	5.898525	1.5949	0.6270	1.5949		
232	800930	0.029525	1.029525	0.029098	5.905517	5.713204	1.6486	0.6066	1.6486		
233	801031	0.019953	1.019953	0.019757	6.110987	5.988496	1.6823	0.5944	1.6823		
234	801128	0.104863	1.104863	0.099721	2.091056	2.017093	1.7440	0.5734	1.7440		
235	801231	-0.034204	0.965796	-0.034803	4.897258	5.163643	1.6540	0.6046	1.6540		
236	810130	-0.040066	0.959934	-0.040891	4.583271	4.856410	1.5610	0.6408	1.5610		
237	810227	0.015556	1.015556	0.015436	6.162084	6.076592	1.5829	0.6317	1.5829		
238	810331	0.046342	1.046342	0.045300	5.272202	5.007444	1.6666	0.6000	1.6666		
239	810430	-0.011243	0.988757	-0.011307	5.862989	6.013656	1.6249	0.6154	1.6249		
240	810529	0.013534	1.013534	0.013443	6.176080	6.108333	1.6429	0.6087	1.6429		
241	810630	-0.010176	0.989824	-0.010228	5.894037	6.036424	1.6042	0.6234	1.6042		
242	810731	-0.003063	0.996937	-0.003068	6.062706	6.145626	1.5825	0.6319	1.5825		
243	810831	-0.056263	0.943737	-0.057908	3.656014	3.900583	1.4833	0.6742	1.4833		
244	810830	-0.063747	0.936253	-0.065870	3.224001	3.436478	1.3916	0.7186	1.3916		
245	811030	0.060183	1.060183	0.058442	4.563412	4.293877	1.4789	0.6762	1.4789		
246	811130	0.045837	1.045837	0.044816	5.295433	5.031786	1.5564	0.6425	1.5564		
247	811231	-0.028082	0.971918	-0.028484	5.202072	5.450985	1.4853	0.6732	1.4853		
248	820129	-0.026205	0.973785	-0.026554	5.289718	5.531175	1.4205	0.7040	1.4205		
249	820228	-0.051119	0.948881	-0.052472	3.855063	4.215540	1.3327	0.7503	1.3327		
250	820331	-0.010083	0.989917	-0.010134	5.896675	6.038331	1.3015	0.7684	1.3015		
251	820430	0.043274	1.043274	0.042364	5.409812	5.152845	1.3664	0.7319	1.3664		
252	820528	-0.028187	0.971803	-0.028602	5.186606	5.445944	1.3038	0.7670	1.3038		
253	820630	-0.023914	0.976086	-0.024205	5.392506	5.623573	1.2502	0.7998	1.2502		
254	820730	-0.020539	0.979461	-0.020753	5.534839	5.748115	1.2038	0.8307	1.2038		
255	820831	0.119023	1.119023	0.112456	1.477249	1.469772	1.2100	0.8265	1.2100		
256	820930	0.016758	1.016758	0.016619	6.150912	6.055070	1.2291	0.8136	1.2291		
257	821029	0.118634	1.118634	0.112108	1.483305	1.483305	1.2366	0.8086	1.2366		
258	821130	0.051924	1.051924	0.050621	5.001629	4.729082	1.3079	0.7646	1.3079		
259	821231	0.014448	1.014448	0.014346	6.170494	6.094669	1.3242	0.7552	1.3242		
260	830131	0.041546	1.041546	0.040706	5.483428	5.231947	1.3878	0.7205	1.3878		
261	830228	0.030516	1.030516	0.030060	5.877243	5.678743	1.4363	0.6862	1.4363		
262	830331	0.034712	1.034712	0.034123	5.743968	5.521775	1.4941	0.6693	1.4941		
263	830429	0.074280	1.074280	0.071651	3.757205	3.528911	1.5917	0.6283	1.5917		
264	830531	0.013076	1.013076	0.012991	6.178411	6.114734	1.6083	0.6218	1.6083		
265	830630	0.038002	1.038002	0.037298	5.624809	5.387126	1.6793	0.5955	1.6793		
266	830729	-0.031772	0.968228	-0.032288	5.021563	5.282277	1.5964	0.6264	1.5964		
267	830831	0.003574	1.003574	0.003568	6.156523	6.179556	1.5904	0.6288	1.5904		
268	830830	0.016311	1.016311	0.016179	6.155314	6.063302	1.6146	0.6194	1.6146		
269	831031	-0.027757	0.972243	-0.028150	5.217459	5.465150	1.5414	0.6488	1.5414		
270	831130	0.028360	1.028360	0.028937	5.910103	5.718841	1.5929	0.6278	1.5929		

Appendix 2
PDF Value Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
271	831230	-0.010440	0.989560	-0.010485	5.886490	6.030843	1.5548	0.6432	1.5548		
272	840131	-0.012918	0.987082	-0.013002	5.811368	5.974627	1.5123	0.6612	1.5123		
273	840229	-0.039170	0.960830	-0.039958	4.632404	4.905140	1.4282	0.7002	1.4282		
274	840330	0.013449	1.013449	0.013359	6.176536	6.109543	1.4439	0.6926	1.4439		
275	840430	0.002734	1.002734	0.002730	6.148168	6.178903	1.4367	0.6960	1.4367		
276	840531	-0.052350	0.947650	-0.053770	3.883592	4.140784	1.3475	0.7421	1.3475		
277	840629	0.023603	1.023603	0.023329	6.047501	5.896412	1.3820	0.7236	1.3820		
278	840731	-0.020361	0.979639	-0.020571	5.542027	5.754286	1.3310	0.7513	1.3310		
279	840831	0.112572	1.112572	0.106674	1.741015	1.705229	1.3589	0.7359	1.3589		
280	840928	0.000374	1.000374	0.000374	6.119196	6.171428	1.3474	0.7421	1.3474		
281	841031	0.000124	1.000124	0.000124	6.115655	6.170148	1.3355	0.7488	1.3355		
282	841130	-0.010494	0.989506	-0.010549	5.884935	6.029810	1.3035	0.7672	1.3035		
283	841231	0.023806	1.023806	0.023527	6.043422	5.890808	1.3372	0.7478	1.3372		
284	850131	0.085748	1.085748	0.082269	3.096549	2.919881	1.4181	0.7052	1.4181		
285	850228	0.017011	1.017011	0.016868	6.148291	6.050291	1.4411	0.6939	1.4411		
286	850328	-0.001918	0.988082	-0.001920	6.083396	6.156186	1.4241	0.7022	1.4241		
287	850430	-0.002192	0.997808	-0.002194	6.078605	6.153838	1.4067	0.7109	1.4067		
288	850531	0.055891	1.055891	0.054385	4.795932	4.522743	1.4916	0.6704	1.4916		
289	850628	0.017182	1.017182	0.017036	6.146467	6.047013	1.5162	0.6596	1.5162		
290	850731	-0.000557	0.988443	-0.000557	6.105555	6.166186	1.5012	0.6661	1.5012		
291	850830	-0.004748	0.985252	-0.004759	6.028945	6.126525	1.4773	0.6769	1.4773		
292	850930	-0.039671	0.960329	-0.040479	4.604976	4.877965	1.3947	0.7170	1.3947		
293	851031	0.044589	1.044589	0.043674	5.351878	5.091266	1.4660	0.6821	1.4660		
294	851129	0.069278	1.069278	0.066984	4.047588	3.799166	1.5619	0.6402	1.5619		
295	851231	0.043264	1.043264	0.042354	5.410246	5.153309	1.6398	0.6088	1.6398		
296	860131	0.009841	1.009841	0.009793	6.186009	6.151503	1.6490	0.6064	1.6490		
297	860228	0.072852	1.072852	0.070321	3.840268	3.604396	1.7569	0.5692	1.7569		
298	860331	0.053891	1.053891	0.052489	4.900874	4.627512	1.8607	0.5374	1.8607		
299	860430	-0.008076	0.991924	-0.008109	5.950867	6.076415	1.8222	0.5488	1.8222		
300	860530	0.050831	1.050831	0.049581	5.056475	4.784810	1.9257	0.5193	1.9257		
301	860630	0.014281	1.014281	0.014190	6.171546	6.097111	1.9492	0.5130	1.9492		
302	860731	-0.059679	0.940321	-0.061534	3.457848	3.688934	1.8271	0.5473	1.8271		
303	860829	0.066401	1.066401	0.064289	4.213169	3.956270	1.9457	0.5139	1.9457		
304	860930	-0.079141	0.920659	-0.082448	2.386018	2.512535	1.8478	0.5412	1.8478		
305	861031	0.049434	1.049434	0.048251	5.125307	4.855224	1.9605	0.5127	1.9605		
306	861128	0.015173	1.015173	0.015059	6.165197	6.083036	1.9769	0.5058	1.9769		
307	861231	-0.026553	0.973447	-0.026912	5.273695	5.516607	1.8898	0.5291	1.8898		
308	870130	0.128386	1.128386	0.120788	1.169629	1.169629	1.8473	0.5413	1.8473		
309	870227	0.047617	1.047617	0.046518	5.212577	4.945317	1.9472	0.5136	1.9472		
310	870331	0.023247	1.023247	0.022981	6.054518	5.906120	1.9961	0.5010	1.9961		
311	870430	-0.017126	0.982874	-0.017274	5.666790	5.859248	1.9305	0.5180	1.9305		
312	870529	0.005221	1.005221	0.005207	6.177789	6.177789	1.9281	0.5187	1.9281		
313	870630	0.043838	1.043838	0.042905	6.169900	5.126529	2.0253	0.4837	2.0253		
314	870731	0.044057	1.044057	0.043114	5.305118	5.116317	2.1279	0.4699	2.1279		
315	870831	0.037243	1.037243	0.036566	5.653460	5.419033	2.2200	0.4505	2.2200		

Appendix 2
PDF Value Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
316	870930	-0.020736	0.979264	-0.020954	5.526844	5.741238	2.1371	0.4679	2.1371		
317	871030	-0.224881	0.775119	-0.254739	0.008204	0.001870	9.3757	0.1067	9.3757		
318	871130	-0.072928	0.927072	-0.075724	2.712757	2.875849	8.8440	0.1131	8.8440		
319	871231	0.070875	1.070875	0.068476	3.955102	3.712027	9.4231	0.1061	9.4231		
320	880129	0.045343	1.045343	0.044345	5.317943	5.055447	9.9124	0.1009	9.9124		
321	880229	0.051620	1.051620	0.050332	5.016968	4.744635	10.4814	0.0954	10.4814		
322	880331	-0.017070	0.982930	-0.017217	5.668849	5.860943	10.1378	0.0986	10.1378		
323	880429	0.010974	1.010974	0.010914	6.185117	6.140322	10.2118	0.0979	10.2118		
324	880531	0.000943	1.000943	0.000943	6.126919	6.173992	10.1339	0.0987	10.1339		
325	880630	0.051381	1.051381	0.050105	5.028982	4.756835	10.7137	0.0933	10.7137		
326	880729	-0.007193	0.992807	-0.007219	5.973034	6.091304	10.5057	0.0952	10.5057		
327	880831	-0.027921	0.972079	-0.028318	5.209706	5.458017	10.0277	0.0997	10.0277		
328	880930	0.037289	1.037289	0.036611	5.651748	5.417113	10.4621	0.0956	10.4621		
329	881031	0.017659	1.017659	0.017505	6.141153	6.037661	10.6414	0.0940	10.6414		
330	881130	-0.016404	0.983596	-0.016540	5.693061	5.880774	10.3017	0.0971	10.3017		
331	881230	0.021017	1.021017	0.020799	6.094427	5.963380	10.5281	0.0950	10.5281		
332	890131	0.065959	1.065959	0.063875	4.238453	3.980392	11.2107	0.0892	11.2107		
333	890228	-0.016371	0.983629	-0.016506	5.694247	5.881741	10.8533	0.0921	10.8533		
334	890331	0.021537	1.021537	0.021308	6.085748	5.950582	11.0999	0.0901	11.0999		
335	890428	0.048543	1.048543	0.047402	5.168430	4.899623	11.7088	0.0854	11.7088		
336	890531	0.039536	1.039536	0.038774	5.565289	5.321177	12.2460	0.0817	12.2460		
337	890630	-0.004923	0.995077	-0.004935	6.025213	6.124299	12.0478	0.0830	12.0478		
338	890731	0.077114	1.077114	0.074285	3.592422	3.374043	12.8276	0.0780	12.8276		
339	890831	0.021965	1.021965	0.021727	6.078317	5.939794	13.1268	0.0762	13.1268		
340	890929	-0.001590	0.998410	-0.001591	6.088969	6.158850	12.9778	0.0771	12.9778		
341	891031	-0.029390	0.970610	-0.029831	5.139281	5.392813	12.3677	0.0809	12.3677		
342	891130	0.017851	1.017851	0.017694	6.138920	6.033811	12.5832	0.0795	12.5832		
343	891229	0.018288	1.018288	0.018123	6.133639	6.024867	12.8103	0.0781	12.8103		
344	900131	-0.070060	0.929940	-0.072635	2.869328	3.048678	12.0567	0.0829	12.0567		
345	900228	0.014980	1.014980	0.014869	6.166685	6.086208	12.2161	0.0819	12.2161		
346	900330	0.024164	1.024164	0.023877	6.036088	5.880803	12.5387	0.0798	12.5387		
347	900430	-0.028155	0.971845	-0.028559	5.198604	5.447787	11.9652	0.0836	11.9652		
348	900531	0.088891	1.088891	0.085160	2.920534	2.760431	12.6592	0.0790	12.6592		
349	900629	-0.004286	0.995714	-0.004305	6.038387	6.132064	12.4658	0.0802	12.4658		
350	900731	-0.009385	0.990615	-0.009429	5.916115	6.052241	12.1854	0.0821	12.1854		
351	900831	-0.091743	0.908257	-0.096228	1.787480	1.840888	11.8319	0.0845	11.8319		
352	900928	-0.053869	0.946131	-0.055374	3.795271	4.047946	11.0933	0.0901	11.0933		
353	901031	-0.012416	0.987584	-0.012494	5.827203	5.986743	10.7977	0.0926	10.7977		
354	901130	0.065986	1.065986	0.063900	4.236910	3.978919	11.4978	0.0870	11.4978		
355	901231	0.029550	1.029550	0.029122	5.904819	5.712348	11.8852	0.0841	11.8852		
356	910131	0.049068	1.049068	0.047902	5.143096	4.873512	12.5427	0.0797	12.5427		
357	910228	0.075688	1.075688	0.072960	3.675301	3.450792	13.3587	0.0749	13.3587		
358	910328	0.028792	1.028792	0.028385	5.925618	5.738019	13.7954	0.0725	13.7954		
359	910430	0.003331	1.003331	0.003325	6.154212	6.179475	13.7390	0.0728	13.7390		
360	910531	0.040606	1.040606	0.039803	5.522228	5.274062	14.3855	0.0695	14.3855		

Appendix 2
PDF Value Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
361	910628	-0.044248	0.955752	-0.045257	4.349631	4.621728	13.5386	0.0739	13.5386		
362	910731	0.046841	1.046841	0.045777	5.249030	4.983242	14.2607	0.0701	14.2607		
363	910830	0.026914	1.026914	0.026558	5.973908	5.798906	14.6911	0.0681	14.6911		
364	910930	-0.011063	0.988937	-0.011125	5.868328	6.017612	14.3266	0.0698	14.3266		
365	911031	0.017714	1.017714	0.017559	6.140518	6.036563	14.5733	0.0686	14.5733		
366	911129	-0.037272	0.962728	-0.037984	4.735210	5.006345	13.7841	0.0725	13.7841		
367	911231	0.107060	1.107060	0.101708	1.987573	1.924890	14.2329	0.0703	14.2329		
368	920131	-0.001892	0.998308	-0.001693	6.087249	6.158039	14.0693	0.0711	14.0693		
369	920228	0.013278	1.013278	0.013191	6.177421	6.111947	14.2200	0.0703	14.2200		
370	920331	-0.023688	0.976312	-0.023973	5.402383	5.632350	13.6394	0.0733	13.6394		
371	920430	0.013837	1.013837	0.013742	6.174367	6.103937	13.7968	0.0725	13.7968		
372	920529	0.006493	1.006493	0.006472	6.177493	6.173674	13.8053	0.0724	13.8053		
373	920630	-0.019246	0.980754	-0.019434	5.586303	5.792014	13.3150	0.0751	13.3150		
374	920731	0.039937	1.039937	0.039160	5.549291	5.303625	13.9318	0.0718	13.9318		
375	920831	-0.020762	0.979238	-0.020981	5.525786	5.740326	13.4111	0.0746	13.4111		
376	920930	0.012427	1.012427	0.012350	6.181181	6.123302	13.5379	0.0739	13.5379		
377	921030	0.010907	1.010907	0.010848	6.185223	6.141035	13.6353	0.0733	13.6353		
378	921130	0.040189	1.040189	0.039402	5.539151	5.292530	14.2707	0.0701	14.2707		
379	921231	0.017484	1.017484	0.017333	6.143141	6.041127	14.5116	0.0689	14.5116		
380	930129	0.012330	1.012330	0.012255	6.181542	6.124531	14.6467	0.0683	14.6467		
381	930228	0.005478	1.005478	0.005463	6.171627	6.177150	14.6336	0.0683	14.6336		
382	930331	0.025031	1.025031	0.024723	6.017596	5.855939	15.0376	0.0665	15.0376		
383	930430	-0.025508	0.974492	-0.025839	5.321491	5.559936	14.3927	0.0695	14.3927		
384	930528	0.029431	1.029431	0.029006	5.908134	5.716419	14.8754	0.0672	14.8754		
385	930630	0.005120	1.005120	0.005107	6.169195	6.178013	14.8542	0.0673	14.8542		
386	930730	-0.000785	0.999215	-0.000785	6.102025	6.164704	14.7031	0.0680	14.7031		
387	930831	0.038343	1.038343	0.038589	5.572929	5.329580	15.3745	0.0650	15.3745		
388	930930	0.000582	1.000582	0.000582	6.122073	6.172421	15.2491	0.0656	15.2491		
389	931029	0.018029	1.018029	0.017868	6.136802	6.030199	15.5186	0.0644	15.5186		
390	931130	-0.017324	0.982676	-0.017476	5.659483	5.853222	15.0050	0.0666	15.0050		
391	931231	0.019453	1.019453	0.019266	6.118209	5.999797	15.3011	0.0654	15.3011		
392	940131	0.031335	1.031335	0.030854	5.852934	5.649488	15.8521	0.0631	15.8521		
393	940228	-0.024080	0.975920	-0.024375	5.385220	5.617086	15.1978	0.0658	15.1978		
394	940331	-0.045728	0.954272	-0.046807	4.265532	4.536136	14.2911	0.0700	14.2911		
395	940429	0.009740	1.009740	0.009693	6.185996	6.152410	14.3692	0.0696	14.3692		
396	940531	0.009494	1.009494	0.009449	6.185900	6.154558	14.4423	0.0692	14.4423		
397	940630	-0.027376	0.972624	-0.027758	5.235387	5.481609	13.7936	0.0725	13.7936		
398	940729	0.030407	1.030407	0.029954	5.880414	5.682584	14.2738	0.0701	14.2738		
399	940831	0.042838	1.042838	0.041946	5.428660	5.173003	14.9793	0.0668	14.9793		
400	940930	-0.018659	0.981341	-0.018835	5.609080	5.811226	14.4582	0.0692	14.4582		
401	941031	0.014794	1.014794	0.014686	6.168066	6.089216	14.6454	0.0683	14.6454		
402	941130	-0.037076	0.962924	-0.037781	4.745721	5.016633	13.8545	0.0722	13.8545		
403	941230	0.012767	1.012767	0.012686	6.179808	6.118887	13.9925	0.0715	13.9925		
404	950131	0.020610	1.020610	0.020400	6.100953	5.973158	14.2918	0.0700	14.2918		
405	950228	0.039660	1.039660	0.038894	5.560360	5.315763	14.9494	0.0669	14.9494		

Appendix 2
PDF Value Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
406	950331	0.026969	1.026969	0.026612	5.972560	5.797179	15.4017	0.0649	15.4017		
407	950428	0.024891	1.024891	0.024586	6.020651	5.860014	15.8239	0.0632	15.8239		
408	950531	0.034144	1.034144	0.033574	5.763258	5.544028	16.4496	0.0608	16.4496		
409	950630	0.030868	1.030868	0.030401	5.866899	5.666255	17.0321	0.0587	17.0321		
410	950731	0.040687	1.040687	0.039881	5.518920	5.270459	17.8351	0.0561	17.8351		
411	950831	0.009365	1.009365	0.009321	6.185814	6.155649	17.9225	0.0558	17.9225		
412	950929	0.036386	1.036386	0.035740	5.684926	5.454462	18.6797	0.0535	18.6797		
413	951031	-0.011194	0.988806	-0.011257	5.864446	6.014737	18.2130	0.0549	18.2130		
414	951130	0.042986	1.042986	0.042088	5.422282	5.166175	19.1159	0.0523	19.1159		
415	951229	0.015396	1.015396	0.015279	6.163411	6.079308	19.3803	0.0516	19.3803		
416	960131	0.028074	1.028074	0.027687	5.944629	5.761760	19.9954	0.0500	19.9954		
417	960229	0.016047	1.016047	0.015920	6.157776	6.068037	20.2911	0.0493	20.2911		
418	960329	0.011175	1.011175	0.011113	6.184760	6.138147	20.4452	0.0489	20.4452		
419	960430	0.025128	1.025128	0.024817	6.015463	5.853102	21.0124	0.0476	21.0124		
420	960531	0.026747	1.026747	0.026396	5.977975	5.804129	21.6417	0.0462	21.6417		
421	960628	-0.007670	0.992330	-0.007700	5.961187	6.083403	21.2069	0.0472	21.2069		
422	960731	-0.053433	0.946567	-0.054914	3.820631	4.074654	19.8848	0.0503	19.8848		
423	960830	0.032190	1.032190	0.031683	5.826662	5.618216	20.6226	0.0485	20.6226		
424	960930	0.052988	1.052988	0.051632	4.947445	4.674334	21.8275	0.0458	21.8275		
425	961031	0.013960	1.013960	0.013863	6.173633	6.102116	22.0834	0.0453	22.0834		
426	961129	0.065702	1.065702	0.063634	4.253133	3.994413	23.5137	0.0425	23.5137		
427	961231	-0.011357	0.988643	-0.011422	5.859586	6.011127	22.9209	0.0436	22.9209		
428	970131	0.053048	1.053048	0.051689	4.944367	4.671233	24.2612	0.0412	24.2612		
429	970228	-0.000852	0.999148	-0.000852	6.100973	6.164254	24.0121	0.0416	24.0121		
430	970331	-0.044410	0.955590	-0.045426	4.340457	4.612419	22.5963	0.0443	22.5963		
431	970430	0.042506	1.042506	0.041627	5.442889	5.188263	23.7052	0.0422	23.7052		
432	970530	0.071255	1.071255	0.068831	3.933054	3.691313	25.2577	0.0396	25.2577		
433	970630	0.044175	1.044175	0.043227	5.370291	5.110777	26.5402	0.0377	26.5402		
434	970731	0.076227	1.076227	0.073461	3.643961	3.421738	28.2638	0.0354	28.2638		
435	970829	-0.036511	0.963489	-0.037194	4.775906	5.046112	26.7504	0.0374	26.7504		
436	970930	0.058017	1.058017	0.056396	4.681902	4.409976	28.3998	0.0352	28.3998		
437	971031	-0.034077	0.965923	-0.034671	4.903845	5.169976	26.9379	0.0371	26.9379		
438	971128	0.031135	1.031135	0.030660	5.858948	5.656696	27.9011	0.0358	27.9011		
439	971231	0.018313	1.018313	0.018147	6.133328	6.024348	28.4058	0.0352	28.4058		

Appendix 3
PDF Equal Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K	
1							Normal	Lognormal				
2	Combined nyse/amex and nanyse/amex and nasdaq indices between 251231 and 971231						MEAN =	0.014131	0.010263			
3						STDEV =	0.091065	0.086020				
4												
5	Date	Equal Weighted	Equal Weighted	Equal Weighted	Equal Weighted	Equal Weighted	L1/L2	L2/L1	λ			
6	(YYMMDD)	Return	1+Return	ln(1+Return)	PD Normal	PD Lognormal						
7												
8	620131	-0.007893	0.992107	-0.007924	4.254590	4.571375	0.9307	1.0745	1.0745	$\lambda = L2$		
9	620228	0.015444	1.015444	0.015326	4.380397	4.559361	0.8942	1.1184	1.1184	$\lambda = 33843.3871$		
10	620330	-0.005939	0.994061	-0.005957	4.275741	4.583308	0.8342	1.1988	1.1988	Accept PD Lognormal		
11	620430	-0.068055	0.931945	-0.070481	2.915362	3.203265	0.7592	1.3172	1.3172			
12	620531	-0.098045	0.901955	-0.103191	2.051460	2.154702	0.7228	1.3835	1.3835			
13	620629	-0.084971	0.915029	-0.088800	2.423217	2.611495	0.6707	1.4910	1.4910			
14	620731	0.063777	1.063777	0.061826	3.775890	3.642807	0.6952	1.4384	1.4384			
15	620831	0.037340	1.037340	0.036660	4.240857	4.265228	0.6912	1.4467	1.4467			
16	620928	-0.063898	0.936102	-0.066031	3.034813	3.343266	0.6275	1.5937	1.5937			
17	621031	-0.039690	0.960310	-0.040499	3.678827	4.057715	0.5689	1.7579	1.7579			
18	621130	0.121084	1.121084	0.114296	2.198008	1.990933	0.6280	1.5923	1.5923			
19	621231	-0.025598	0.974402	-0.025931	3.983171	4.356421	0.5742	1.7415	1.7415			
20	630131	0.089144	1.089144	0.085392	3.120444	2.907917	0.6162	1.6229	1.6229			
21	630228	-0.014477	0.985523	-0.014583	4.169930	4.513671	0.5693	1.7566	1.7566			
22	630329	0.012028	1.012028	0.011956	4.379684	4.581794	0.5442	1.8377	1.8377			
23	630430	0.026890	1.026890	0.026535	4.338062	4.436269	0.5321	1.8793	1.8793			
24	630531	0.032301	1.032301	0.031790	4.294508	4.354172	0.5248	1.9054	1.9054			
25	630628	-0.010382	0.989618	-0.010436	4.224981	4.552723	0.4870	2.0532	2.0532			
26	630731	-0.006304	0.993696	-0.006324	4.271932	4.581261	0.4542	2.2019	2.2019			
27	630830	0.042305	1.042305	0.041435	4.176123	4.166790	0.4552	2.1970	2.1970			
28	630930	-0.010373	0.989627	-0.010427	4.225093	4.552798	0.4224	2.3674	2.3674			
29	631031	0.012209	1.012209	0.012135	4.379877	4.580778	0.4039	2.4760	2.4760			
30	631129	-0.016140	0.983860	-0.016272	4.145385	4.494867	0.3725	2.6847	2.6847			
31	631231	-0.004225	0.995775	-0.004234	4.292754	4.591809	0.3482	2.8717	2.8717			
32	640131	0.032062	1.032062	0.031559	4.296743	4.358100	0.3433	2.9127	2.9127			
33	640228	0.025173	1.025173	0.024861	4.348764	4.459239	0.3348	2.9867	2.9867			
34	640331	0.025510	1.025510	0.025190	4.346783	4.454851	0.3267	3.0610	3.0610			
35	640430	0.001004	1.001004	0.001003	4.335574	4.606388	0.3075	3.2522	3.2522			
36	640528	0.007537	1.007537	0.007509	4.369383	4.600751	0.2920	3.4244	3.4244			
37	640630	0.010411	1.010411	0.010357	4.377199	4.590014	0.2785	3.5909	3.5909			
38	640731	0.030161	1.030161	0.029715	4.313501	4.388363	0.2737	3.6532	3.6532			
39	640831	-0.006038	0.993962	-0.006056	4.274715	4.582761	0.2553	3.9165	3.9165			
40	640930	0.038260	1.038260	0.037546	4.229735	4.247768	0.2542	3.9331	3.9331			
41	641030	0.018821	1.018821	0.018646	4.375045	4.530560	0.2455	4.0730	4.0730			
42	641130	-0.000516	0.999484	-0.000516	4.324553	4.603911	0.2306	4.3361	4.3361			
43	641231	-0.012365	0.987635	-0.012442	4.199292	4.535106	0.2135	4.6828	4.6828			
44	650129	0.071403	1.071403	0.068969	3.594754	3.429400	0.2238	4.4674	4.4674			
45	650228	0.032325	1.032325	0.031814	4.294282	4.353776	0.2208	4.5293	4.5293			

Appendix 3
PDF Equal Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
46	650331	0.015410	1.015410	0.015292	4.380420	4.559618	0.2121	4.7146	4.7146		
47	650430	0.041560	1.041560	0.040720	4.186567	4.182205	0.2123	4.7097	4.7097		
48	650528	-0.005845	0.994155	-0.005862	4.276712	4.583822	0.1981	5.0479	5.0479		
49	650630	-0.083718	0.916282	-0.087431	2.459541	2.655806	0.1835	5.4507	5.4507		
50	650730	0.028633	1.028633	0.028231	4.325651	4.411408	0.1799	5.5587	5.5587		
51	650831	0.041844	1.041844	0.040992	4.182616	4.176355	0.1802	5.5504	5.5504		
52	650930	0.027420	1.027420	0.027051	4.334452	4.428873	0.1763	5.6713	5.6713		
53	651029	0.058679	1.058679	0.057022	3.886811	3.779059	0.1814	5.5141	5.5141		
54	651130	0.046543	1.046543	0.045492	4.111970	4.075043	0.1830	5.4646	5.4646		
55	651231	0.042960	1.042960	0.042063	4.166733	4.153057	0.1836	5.4467	5.4467		
56	660131	0.064170	1.064170	0.062195	3.766982	3.632067	0.1904	5.2516	5.2516		
57	660228	0.028865	1.028865	0.028456	4.323883	4.407984	0.1868	5.3537	5.3537		
58	660331	-0.008889	0.991111	-0.008929	4.243097	4.564375	0.1736	5.7591	5.7591		
59	660429	0.048619	1.048619	0.045565	4.110747	4.073337	0.1752	5.7067	5.7067		
60	660531	-0.086074	0.913926	-0.090006	2.391310	2.572512	0.1629	6.1391	6.1391		
61	660630	-0.004980	0.995020	-0.004992	4.285439	4.588291	0.1521	6.5730	6.5730		
62	660729	-0.016316	0.983684	-0.016451	4.142715	4.492778	0.1403	7.1284	7.1284		
63	660831	-0.100714	0.899286	-0.106154	1.977868	2.063871	0.1344	7.4384	7.4384		
64	660930	-0.018161	0.981839	-0.018328	4.113903	4.469751	0.1237	8.0818	8.0818		
65	661031	-0.014385	0.985615	-0.014489	4.171251	4.514662	0.1143	8.7471	8.7471		
66	661130	0.040727	1.040727	0.039920	4.197942	4.199178	0.1143	8.7497	8.7497		
67	661230	0.017306	1.017306	0.017158	4.378190	4.544283	0.1101	9.0816	9.0816		
68	670131	0.172103	1.172103	0.158800	0.972989	0.890974	0.1202	8.3161	8.3161		
69	670228	0.042368	1.042368	0.041495	4.175229	4.165477	0.1205	8.2967	8.2967		
70	670331	0.058244	1.058244	0.056611	3.895860	3.790401	0.1239	8.0721	8.0721		
71	670428	0.041909	1.041909	0.041055	4.181706	4.175012	0.1241	8.0592	8.0592		
72	670531	-0.008097	0.991903	-0.008130	4.252275	4.569992	0.1155	8.6613	8.6613		
73	670630	0.081963	1.081963	0.078777	3.319527	3.121336	0.1228	8.1442	8.1442		
74	670731	0.083250	1.083250	0.079966	3.284437	3.083203	0.1308	7.6452	7.6452		
75	670831	0.006312	1.006312	0.006292	4.364735	4.603806	0.1240	8.0640	8.0640		
76	670929	0.062963	1.062963	0.061060	3.794184	3.664950	0.1284	7.7893	7.7893		
77	671031	-0.020594	0.979406	-0.020809	4.073658	4.436258	0.1179	8.4827	8.4827		
78	671130	0.000877	1.000877	0.000877	4.334698	4.606236	0.1109	9.0140	9.0140		
79	671229	0.080445	1.080445	0.077373	3.360534	3.166200	0.1177	8.4928	8.4928		
80	680131	0.023900	1.023900	0.023619	4.355716	4.475274	0.1146	8.7259	8.7259		
81	680229	-0.056118	0.943882	-0.057754	3.253411	3.594418	0.1037	9.6405	9.6405		
82	680329	-0.011222	0.988778	-0.011285	4.214324	4.545558	0.0962	10.3982	10.3982		
83	680430	0.143031	1.143031	0.133684	1.608751	1.449524	0.1067	9.3690	9.3690		
84	680531	0.091309	1.091309	0.087378	3.059064	2.843460	0.1148	8.7087	8.7087		
85	680628	0.016224	1.016224	0.016094	4.379695	4.553287	0.1104	9.0539	9.0539		
86	680730	-0.026205	0.973795	-0.026554	3.971517	4.345755	0.1009	9.9070	9.9070		
87	680830	0.035918	1.035918	0.035288	4.257249	4.291490	0.1001	9.9867	9.9867		
88	680930	0.068808	1.068808	0.066544	3.658273	3.503115	0.1046	9.5631	9.5631		
89	681031	0.006859	1.006859	0.006836	4.366907	4.602555	0.0992	10.0792	10.0792		
90	681129	0.072011	1.072011	0.069536	3.579812	3.411988	0.1041	9.6072	9.6072		

Appendix 3
PDF Equal Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
91	681231	0.005910	1.005910	0.005893	4.363038	4.604609	0.0986	10.1391	10.1391		
92	690131	-0.001688	0.998312	-0.001689	4.315253	4.601016	0.0925	10.8106	10.8106		
93	690228	-0.085726	0.914274	-0.089625	2.401369	2.584808	0.0859	11.6364	11.6364		
94	690326	0.020289	1.020289	0.020086	4.370847	4.516035	0.0832	12.0229	12.0229		
95	690430	0.003494	1.003494	0.003488	4.351069	4.607343	0.0785	12.7310	12.7310		
96	690529	0.006265	1.006265	0.006245	4.364541	4.603905	0.0745	13.4293	13.4293		
97	690630	-0.113404	0.886596	-0.120366	1.643076	1.651279	0.0741	13.4963	13.4963		
98	690731	-0.095823	0.904177	-0.100730	2.113427	2.231132	0.0702	14.2480	14.2480		
99	690829	0.052187	1.052187	0.050871	4.014538	3.942993	0.0715	13.9940	13.9940		
100	690930	-0.024618	0.975382	-0.024926	4.001684	4.373197	0.0654	15.2932	15.2932		
101	691031	0.092414	1.092414	0.088390	3.027544	2.810586	0.0704	14.1973	14.1973		
102	691128	-0.055079	0.944921	-0.056654	3.281958	3.626663	0.0637	15.6885	15.6885		
103	691231	-0.066178	0.933822	-0.068469	2.969470	3.266899	0.0579	17.2598	17.2598		
104	700130	-0.038830	0.961170	-0.039604	3.699253	4.078836	0.0525	19.0309	19.0309		
105	700227	0.040195	1.040195	0.039408	4.205039	4.209870	0.0525	19.0527	19.0527		
106	700331	-0.023673	0.976327	-0.023958	4.019176	4.388853	0.0481	20.8052	20.8052		
107	700430	-0.161963	0.838037	-0.176693	0.675445	0.521569	0.0622	16.0655	16.0655		
108	700529	-0.090523	0.909477	-0.094886	2.263448	2.415791	0.0583	17.1468	17.1468		
109	700630	-0.073903	0.926097	-0.076776	2.745534	3.001455	0.0533	18.7451	18.7451		
110	700731	0.059260	1.059260	0.057571	3.874620	3.763838	0.0549	18.2091	18.2091		
111	700831	0.061617	1.061617	0.059793	3.823958	3.701255	0.0567	17.6248	17.6248		
112	700930	0.126096	1.126096	0.118757	2.057305	1.859080	0.0628	15.9266	15.9266		
113	701030	-0.050604	0.941396	-0.060391	3.184427	3.515940	0.0569	17.5847	17.5847		
114	701130	0.003021	1.003021	0.003016	4.348372	4.607458	0.0537	18.6324	18.6324		
115	701231	0.081321	1.081321	0.078183	3.336922	3.140326	0.0570	17.5347	17.5347		
116	710129	0.136097	1.136097	0.127599	1.786643	1.610125	0.0633	15.8023	15.8023		
117	710226	0.047915	1.047915	0.046802	4.089515	4.043932	0.0640	15.6261	15.6261		
118	710331	0.056603	1.056603	0.055059	3.929378	3.832746	0.0656	15.2418	15.2418		
119	710430	0.027087	1.027087	0.026727	4.336737	4.433537	0.0642	15.5821	15.5821		
120	710528	-0.049431	0.950569	-0.050695	3.433752	3.795621	0.0581	17.2242	17.2242		
121	710630	-0.017240	0.982760	-0.017390	4.128472	4.481504	0.0535	18.6971	18.6971		
122	710730	-0.053635	0.946365	-0.055127	3.321331	3.670904	0.0484	20.6649	20.6649		
123	710831	0.041077	1.041077	0.040256	4.193201	4.192081	0.0484	20.6594	20.6594		
124	710930	-0.004653	0.995347	-0.004664	4.288642	4.589859	0.0452	22.1104	22.1104		
125	711029	-0.057468	0.942532	-0.059185	3.216064	3.552026	0.0409	24.4202	24.4202		
126	711130	-0.034150	0.965850	-0.034747	3.806455	4.187461	0.0372	26.8645	26.8645		
127	711231	0.117128	1.117128	0.110761	2.310881	2.098022	0.0410	24.3900	24.3900		
128	720131	0.103892	1.103892	0.098842	2.695160	2.472421	0.0447	22.3743	22.3743		
129	720229	0.041809	1.041809	0.040959	4.183105	4.177078	0.0448	22.3421	22.3421		
130	720330	-0.000951	0.999049	-0.000951	4.321182	4.602936	0.0420	23.7988	23.7988		
131	720428	0.001231	1.001231	0.001230	4.337119	4.606635	0.0396	25.2777	25.2777		
132	720531	-0.018122	0.981878	-0.018288	4.114527	4.470259	0.0364	27.4632	27.4632		
133	720630	-0.033775	0.966225	-0.034359	3.814742	4.195688	0.0331	30.2057	30.2057		
134	720731	-0.029489	0.970511	-0.029933	3.906042	4.284476	0.0302	33.1321	33.1321		
135	720831	0.012252	1.012252	0.012178	4.379920	4.580533	0.0289	34.6497	34.6497		

Appendix 3
PDF Equal Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
136	720929	-0.030725	0.969275	-0.031207	3.880373	4.259877	0.0263	38.0385	38.0385		
137	721031	-0.013767	0.986233	-0.013863	4.180029	4.521183	0.0243	11.1430	41.1430		
138	721130	0.051097	1.051097	0.049834	4.034380	3.969310	0.0247	40.4794	40.4794		
139	721229	-0.019873	0.980127	-0.020073	4.085847	4.446552	0.0227	44.0530	44.0530		
140	730131	-0.026173	0.973827	-0.026522	3.972135	4.346323	0.0207	48.2029	48.2029		
141	730228	-0.072856	0.927144	-0.075646	2.776037	3.037917	0.0190	52.7502	52.7502		
142	730330	-0.029021	0.970979	-0.029450	3.915618	4.293574	0.0173	57.8419	57.8419		
143	730430	-0.070657	0.929343	-0.073277	2.839985	3.114064	0.0158	63.4241	63.4241		
144	730531	-0.083586	0.916414	-0.087287	2.463372	2.660475	0.0146	68.4988	68.4988		
145	730629	-0.037774	0.962226	-0.038506	3.724034	4.104287	0.0132	75.4931	75.4931		
146	730731	0.105953	1.105953	0.100707	2.635027	2.412751	0.0145	69.1249	69.1249		
147	730831	-0.044402	0.955598	-0.045418	3.563254	3.935978	0.0131	76.3555	76.3555		
148	730928	0.073015	1.073015	0.070472	3.554399	3.383129	0.0138	72.6763	72.6763		
149	731031	0.000315	1.000315	0.000315	4.330724	4.605443	0.0129	77.2865	77.2865		
150	731130	-0.175249	0.824751	-0.192674	0.504016	0.347856	0.0187	53.3408	53.3408		
151	731231	-0.041833	0.958167	-0.042733	3.627011	4.003586	0.0170	58.8789	58.8789		
152	740131	0.132290	1.132290	0.124242	1.687883	1.702562	0.0188	53.0992	53.0992		
153	740228	0.008559	1.008559	0.008523	4.372660	4.597504	0.0179	55.8295	55.8295		
154	740329	0.008371	1.008371	0.008336	4.372098	4.598149	0.0170	58.7161	58.7161		
155	740430	-0.055505	0.944495	-0.057105	3.270275	3.613483	0.0154	64.8782	64.8782		
156	740531	-0.072558	0.927442	-0.075325	2.784713	3.048272	0.0141	71.0186	71.0186		
157	740628	-0.033485	0.966515	-0.034058	3.821119	4.202001	0.0128	78.0977	78.0977		
158	740731	-0.051935	0.948065	-0.053332	3.367206	3.722092	0.0116	86.3288	86.3288		
159	740830	-0.085820	0.914180	-0.089728	2.398651	2.581486	0.0108	92.9091	92.9091		
160	740930	-0.078985	0.921015	-0.082279	2.597293	2.823073	0.0099	100.9856	100.9856		
161	741031	0.088990	1.088990	0.085251	3.124789	2.912502	0.0106	94.1250	94.1250		
162	741129	-0.051352	0.948648	-0.052717	3.382812	3.739415	0.0096	104.0473	104.0473		
163	741231	-0.080724	0.919276	-0.084169	2.546605	2.761676	0.0089	112.8345	112.8345		
164	750131	0.299221	1.299221	0.261765	0.032609	0.049700	0.0058	171.9711	171.9711		
165	750228	0.053978	1.053978	0.052572	3.980908	3.898962	0.0059	168.4312	168.4312		
166	750331	0.081546	1.081546	0.078391	3.330834	3.133673	0.0063	158.4613	158.4613		
167	750430	0.031115	1.031115	0.030641	4.305317	4.373393	0.0062	160.9669	160.9669		
168	750530	0.072907	1.072907	0.070372	3.557124	3.386239	0.0065	153.2340	153.2340		
169	750630	0.071790	1.071790	0.069330	3.585127	3.418323	0.0068	146.1046	146.1046		
170	750731	-0.008976	0.991024	-0.009017	4.242070	4.563734	0.0064	157.1832	157.1832		
171	750829	-0.048105	0.951895	-0.049301	3.468461	3.833609	0.0058	173.7310	173.7310		
172	750930	-0.038883	0.961117	-0.039659	3.698000	4.077544	0.0052	191.5618	191.5618		
173	751031	0.014703	1.014703	0.014596	4.380766	4.564806	0.0050	199.6095	199.6095		
174	751128	0.016844	1.016844	0.016704	4.378908	4.548210	0.0048	207.3270	207.3270		
175	751231	-0.000578	0.999422	-0.000578	4.324078	4.603779	0.0045	220.7378	220.7378		
176	760130	0.190032	1.190032	0.173980	0.678210	0.637034	0.0048	207.3361	207.3361		
177	760227	0.106222	1.106222	0.100951	2.627178	2.404995	0.0053	189.8015	189.8015		
178	760331	0.018173	1.018173	0.018010	4.376538	4.536588	0.0051	196.7425	196.7425		
179	760430	-0.003804	0.996196	-0.003811	4.296710	4.583616	0.0048	210.3375	210.3375		
180	760528	-0.019671	0.980329	-0.019867	4.089223	4.449380	0.0044	228.8630	228.8630		

Appendix 3
PDF Equal Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
181	760630	0.026517	1.026517	0.026172	4.340516	4.441389	0.0043	234.1817	234.1817		
182	760730	0.002234	1.002234	0.002232	4.343627	4.607341	0.0040	248.3995	248.3995		
183	760831	-0.016677	0.983323	-0.016818	4.137195	4.488435	0.0037	269.4881	269.4881		
184	760930	0.017009	1.017009	0.016866	4.378665	4.546821	0.0036	279.8375	279.8375		
185	761029	-0.022569	0.977431	-0.022828	4.039158	4.406488	0.0033	305.2865	305.2865		
186	761130	0.026643	1.026643	0.026294	4.339695	4.439667	0.0032	312.3193	312.3193		
187	761231	0.102563	1.102563	0.097637	2.733919	2.511112	0.0035	286.8661	286.8661		
188	770131	0.036887	1.036887	0.036223	4.246184	4.273691	0.0035	288.7244	288.7244		
189	770228	0.004426	1.004426	0.004416	4.356046	4.606714	0.0033	305.3390	305.3390		
190	770331	0.010626	1.010626	0.010570	4.377609	4.589011	0.0031	320.0843	320.0843		
191	770429	0.016916	1.016916	0.016775	4.378804	4.547606	0.0030	332.4235	332.4235		
192	770531	0.002880	1.002880	0.002876	4.347545	4.607465	0.0028	352.2976	352.2976		
193	770630	0.051598	1.051598	0.050311	4.025320	3.957260	0.0029	346.3410	346.3410		
194	770729	0.012366	1.012366	0.012290	4.380030	4.579880	0.0028	362.1437	362.1437		
195	770831	-0.001233	0.998767	-0.001234	4.318946	4.602242	0.0026	385.8981	385.8981		
196	770930	0.015021	1.015021	0.014909	4.380643	4.562508	0.0025	401.9189	401.9189		
197	771031	-0.023168	0.976832	-0.023441	4.028378	4.397008	0.0023	438.6978	438.6978		
198	771130	0.070896	1.070896	0.068496	3.607307	3.443880	0.0024	418.8229	418.8229		
199	771230	0.021099	1.021099	0.020879	4.368046	4.507509	0.0023	432.1951	432.1951		
200	780131	-0.011196	0.988804	-0.011259	4.214659	4.545786	0.0021	466.1508	466.1508		
201	780228	0.026044	1.026044	0.025711	4.343525	4.447777	0.0021	477.3393	477.3393		
202	780331	0.067868	1.067868	0.065664	3.680820	3.529558	0.0022	457.7232	457.7232		
203	780428	0.079294	1.079294	0.076307	3.391337	3.200120	0.0023	431.9149	431.9149		
204	780531	0.067630	1.067630	0.065441	3.686489	3.536230	0.0024	414.3104	414.3104		
205	780630	0.010288	1.010288	0.010235	4.376953	4.590575	0.0023	434.5312	434.5312		
206	780731	0.052383	1.052383	0.051057	4.010919	3.938222	0.0023	426.6553	426.6553		
207	780831	0.093574	1.093574	0.089451	2.994329	2.776107	0.0025	395.5614	395.5614		
208	780929	0.006062	1.006062	0.006044	4.363689	4.604317	0.0024	417.3739	417.3739		
209	781031	-0.177326	0.822674	-0.195195	0.480543	0.325293	0.0035	282.5322	282.5322		
210	781130	0.038224	1.038224	0.037512	4.230178	4.248458	0.0035	283.7531	283.7531		
211	781229	0.014350	1.014350	0.014248	4.380839	4.567288	0.0034	295.8296	295.8296		
212	790131	0.093735	1.093735	0.089598	2.989710	2.771325	0.0036	274.2205	274.2205		
213	790228	-0.016314	0.983686	-0.016449	4.142745	4.492802	0.0034	297.3918	297.3918		
214	790330	0.084126	1.084126	0.080774	3.260393	3.057207	0.0036	278.8586	278.8586		
215	790430	0.028872	1.028872	0.028463	4.323829	4.407880	0.0035	284.2793	284.2793		
216	790531	-0.007005	0.992995	-0.007030	4.264433	4.577094	0.0033	305.1222	305.1222		
217	790629	0.054593	1.054593	0.053155	3.969071	3.883623	0.0033	298.5535	298.5535		
218	790731	0.021341	1.021341	0.021116	4.367142	4.504892	0.0032	307.9705	307.9705		
219	790831	0.075539	1.075539	0.072822	3.489924	3.310040	0.0034	292.0965	292.0965		
220	790928	-0.001260	0.998740	-0.001261	4.318730	4.602173	0.0032	311.2672	311.2672		
221	791031	-0.097858	0.902142	-0.102983	2.056652	2.161107	0.0031	327.0761	327.0761		
222	791130	0.065408	1.065408	0.063358	3.738601	3.598034	0.0032	314.7785	314.7785		
223	791231	0.067195	1.067195	0.065034	3.696807	3.548399	0.0033	302.1418	302.1418		
224	800131	0.105038	1.105038	0.099880	2.661724	2.439190	0.0036	276.8812	276.8812		
225	800229	-0.006299	0.993701	-0.006319	4.271984	4.581289	0.0034	296.9282	296.9282		

Appendix 3
PDF Equal Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
226	800331	-0.165083	0.834917	-0.180423	0.631775	0.475986	0.0045	223.7091	223.7091		
227	800430	0.053579	1.053579	0.052193	3.988509	3.908854	0.0046	219.2414	219.2414		
228	800530	0.071098	1.071098	0.068684	3.602314	3.438115	0.0048	209.2480	209.2480		
229	800630	0.046212	1.046212	0.045176	4.117266	4.082449	0.0048	207.4786	207.4786		
230	800731	0.089399	1.089399	0.085626	3.113242	2.900323	0.0052	193.2888	193.2888		
231	800829	0.063740	1.063740	0.061791	3.776726	3.643816	0.0054	186.4866	186.4866		
232	800930	0.052561	1.052561	0.051226	4.007620	3.933878	0.0055	183.0552	183.0552		
233	801031	0.047444	1.047444	0.046353	4.097315	4.054687	0.0055	181.1507	181.1507		
234	801128	0.069146	1.069146	0.066860	3.650105	3.493572	0.0058	173.3822	173.3822		
235	801231	-0.032432	0.967568	-0.032970	3.844035	4.224556	0.0052	190.5453	190.5453		
236	810130	0.005590	1.005590	0.005574	4.361627	4.605177	0.0050	201.1852	201.1852		
237	810227	0.002066	1.002066	0.002064	4.342573	4.607266	0.0047	213.4480	213.4480		
238	810331	0.072659	1.072659	0.070141	3.563368	3.393377	0.0049	203.2654	203.2654		
239	810430	0.028016	1.028016	0.027631	4.330222	4.420384	0.0048	207.4977	207.4977		
240	810529	0.027211	1.027211	0.026847	4.335893	4.431806	0.0047	212.0878	212.0878		
241	810630	-0.013080	0.986920	-0.013166	4.189581	4.528157	0.0044	229.2274	229.2274		
242	810731	-0.019781	0.980219	-0.019979	4.087387	4.447843	0.0040	249.4423	249.4423		
243	810831	-0.071918	0.928082	-0.074635	2.803336	3.070475	0.0037	273.2125	273.2125		
244	810930	-0.089783	0.910217	-0.094072	2.284609	2.441778	0.0034	292.0080	292.0080		
245	811030	0.069862	1.069862	0.067530	3.632695	3.473297	0.0036	279.1950	279.1950		
246	811130	0.021704	1.021704	0.021472	4.365729	4.500906	0.0035	287.8398	287.8398		
247	811231	-0.019629	0.980371	-0.019824	4.089922	4.449965	0.0032	313.1788	313.1788		
248	820129	-0.017217	0.982783	-0.017367	4.128831	4.481790	0.0029	339.9513	339.9513		
249	820226	-0.047775	0.952225	-0.048954	3.477038	3.842957	0.0027	375.7273	375.7273		
250	820331	-0.012073	0.987927	-0.012146	4.203190	4.537853	0.0025	405.6432	405.6432		
251	820430	0.052454	1.052454	0.051125	4.009605	3.936490	0.0025	398.2463	398.2463		
252	820528	-0.022200	0.977800	-0.022450	4.045726	4.412224	0.0023	434.3231	434.3231		
253	820630	-0.036616	0.963384	-0.037303	3.750820	4.131575	0.0021	478.4123	478.4123		
254	820730	-0.014985	0.985015	-0.015098	4.162564	4.508106	0.0019	518.1261	518.1261		
255	820831	0.063405	1.063405	0.061478	3.784277	3.652944	0.0020	500.1446	500.1446		
256	820930	0.032885	1.032885	0.032356	4.288928	4.344462	0.0020	506.6205	506.6205		
257	821029	0.128619	1.128619	0.120995	1.987642	1.794436	0.0022	457.3752	457.3752		
258	821130	0.092036	1.092036	0.088044	3.038340	2.821829	0.0024	424.7828	424.7828		
259	821231	0.022644	1.022644	0.022391	4.361751	4.490252	0.0023	437.2973	437.2973		
260	830131	0.109106	1.109106	0.103554	2.543096	2.322339	0.0025	399.3371	399.3371		
261	830228	0.052681	1.052681	0.051340	4.005388	3.930945	0.0026	391.9151	391.9151		
262	830331	0.050214	1.050214	0.048994	4.050101	3.990352	0.0026	386.1334	386.1334		
263	830429	0.081444	1.081444	0.078297	3.333595	3.136689	0.0028	363.3257	363.3257		
264	830531	0.090840	1.090840	0.086948	3.072405	2.857419	0.0030	337.9026	337.9026		
265	830630	0.048799	1.048799	0.047646	4.074622	4.023540	0.0030	333.6665	333.6665		
266	830729	-0.017980	0.982020	-0.018144	4.116795	4.472101	0.0028	362.4641	362.4641		
267	830831	-0.033538	0.966462	-0.034113	3.819955	4.200851	0.0025	398.6061	398.6061		
268	830930	0.002960	1.002960	0.002956	4.348016	4.607462	0.0024	422.3910	422.3910		
269	831031	-0.056570	0.943430	-0.058233	3.240938	3.580285	0.0021	466.6181	466.6181		
270	831130	0.030606	1.030606	0.030147	4.309741	4.381435	0.0021	474.3806	474.3806		

Appendix 3
PDF Equal Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
271	831230	-0.019332	0.980668	-0.019521	4.094849	4.454073	0.0019	515.9960	515.9960		
272	840131	0.005688	1.005688	0.005672	4.362065	4.605010	0.0018	544.7343	544.7343		
273	840229	-0.053818	0.946182	-0.055320	3.316362	3.665335	0.0017	602.0555	602.0555		
274	840330	0.007093	1.007093	0.007068	4.367789	4.601964	0.0016	634.3342	634.3342		
275	840430	-0.019455	0.980545	-0.019647	4.092813	4.452378	0.0014	690.0622	690.0622		
276	840531	-0.050766	0.949234	-0.052100	3.398431	3.756704	0.0013	762.8108	762.8108		
277	840629	0.013851	1.013851	0.013756	4.380831	4.570672	0.0013	795.8667	795.8667		
278	840731	-0.047479	0.952521	-0.048643	3.484711	3.851305	0.0011	879.5923	879.5923		
279	840831	0.089623	1.089623	0.085832	3.106910	2.893653	0.0012	819.2174	819.2174		
280	840928	0.000260	1.000260	0.000260	4.330327	4.605355	0.0011	871.2477	871.2477		
281	841031	-0.020953	0.979047	-0.021176	4.067507	4.431018	0.0011	949.1105	949.1105		
282	841130	-0.031390	0.968610	-0.031893	3.866338	4.246301	0.0010	1042.3842	1042.3842		
283	841231	0.005083	1.005083	0.005070	4.359283	4.605949	0.0009	1101.3665	1101.3665		
284	850131	0.122783	1.122783	0.115810	2.149995	1.945741	0.0010	996.7344	996.7344		
285	850228	0.047157	1.047157	0.046079	4.102021	4.061202	0.0010	986.8160	986.8160		
286	850329	-0.008492	0.991508	-0.008528	4.247735	4.567239	0.0009	1061.0419	1061.0419		
287	850430	-0.011322	0.988678	-0.011387	4.213033	4.544676	0.0009	1144.5654	1144.5654		
288	850531	0.022982	1.022982	0.022722	4.360207	4.486305	0.0008	1177.6662	1177.6662		
289	850628	0.003482	1.003482	0.003476	4.351002	4.607348	0.0008	1247.0501	1247.0501		
290	850731	0.019458	1.019458	0.019271	4.373363	4.524404	0.0008	1290.1192	1290.1192		
291	850830	-0.003306	0.996694	-0.003311	4.301276	4.595609	0.0007	1378.4012	1378.4012		
292	850930	-0.056222	0.943778	-0.057864	3.250544	3.591172	0.0007	1522.8453	1522.8453		
293	851031	0.019001	1.019001	0.018823	4.374592	4.528844	0.0006	1576.5422	1576.5422		
294	851129	0.053335	1.053335	0.051961	3.993127	3.914880	0.0006	1545.6494	1545.6494		
295	851231	0.029199	1.029199	0.028781	4.321289	4.403007	0.0006	1574.8785	1574.8785		
296	860131	0.043401	1.043401	0.042486	4.160301	4.143716	0.0006	1568.6002	1568.6002		
297	860228	0.062372	1.062372	0.060504	3.807331	3.680940	0.0007	1516.5278	1516.5278		
298	860331	0.047744	1.047744	0.046639	4.092358	4.047846	0.0007	1500.0327	1500.0327		
299	860430	0.015674	1.015674	0.015552	4.380223	4.557606	0.0006	1560.7786	1560.7786		
300	860530	0.036680	1.036680	0.036023	4.248586	4.277528	0.0006	1571.4108	1571.4108		
301	860630	0.008864	1.008864	0.008825	4.373532	4.596413	0.0006	1651.4921	1651.4921		
302	860731	-0.073591	0.926409	-0.076439	2.754627	3.012333	0.0006	1805.9958	1805.9958		
303	860829	0.022140	1.022140	0.021898	4.363941	4.496024	0.0005	1860.6577	1860.6577		
304	860930	-0.060467	0.939533	-0.062372	3.132161	3.455984	0.0005	2053.0250	2053.0250		
305	861031	0.024537	1.024537	0.024241	4.352342	4.467357	0.0005	2107.2782	2107.2782		
306	861128	-0.006301	0.993699	-0.006321	4.271963	4.581278	0.0004	2259.8571	2259.8571		
307	861231	-0.034537	0.965463	-0.035147	3.797854	4.178894	0.0004	2486.5895	2486.5895		
308	870130	0.116898	1.116898	0.110555	2.317484	2.104324	0.0004	2257.8754	2257.8754		
309	870227	0.074949	1.074949	0.072273	3.505131	3.327189	0.0005	2143.2517	2143.2517		
310	870331	0.033141	1.033141	0.032604	4.286429	4.340154	0.0005	2170.1149	2170.1149		
311	870430	-0.019600	0.980400	-0.019795	4.090405	4.450369	0.0004	2361.0892	2361.0892		
312	870529	0.000723	1.000723	0.000723	4.333626	4.606038	0.0004	2509.5080	2509.5080		
313	870630	0.021912	1.021912	0.021675	4.364889	4.498590	0.0004	2586.3769	2586.3769		
314	870731	0.034751	1.034751	0.034161	4.269971	4.312369	0.0004	2612.0582	2612.0582		
315	870831	0.015680	1.015680	0.015558	4.380218	4.557560	0.0004	2717.8125	2717.8125		

Appendix 3
PDF Equal Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
316	870930	-0.015563	0.984437	-0.015685	4.154042	4.501583	0.0003	2945.1938	2945.1938		
317	871030	-0.270875	0.729125	-0.315910	0.032704	0.004801	0.0023	432.3837	432.3837		
318	871130	-0.052393	0.947607	-0.053815	3.354900	3.708400	0.0021	477.9432	477.9432		
319	871231	0.028093	1.028093	0.027706	4.329662	4.419275	0.0020	487.8354	487.8354		
320	880129	0.078073	1.078073	0.075175	3.423723	3.235996	0.0022	461.0868	461.0868		
321	880229	0.062058	1.062058	0.060209	3.814269	3.689404	0.0022	445.9925	445.9925		
322	880331	0.034338	1.034338	0.033762	4.274314	4.319611	0.0022	450.7188	450.7188		
323	880429	0.015169	1.015169	0.015055	4.380567	4.561419	0.0021	469.3267	469.3267		
324	880531	-0.017122	0.982878	-0.017270	4.130312	4.482972	0.0020	509.3995	509.3995		
325	880630	0.048424	1.048424	0.047288	4.080980	4.032223	0.0020	503.3135	503.3135		
326	880729	0.000491	1.000491	0.000491	4.331986	4.605713	0.0019	535.1166	535.1166		
327	880831	-0.023705	0.976295	-0.023990	4.018590	4.388331	0.0017	584.3514	584.3514		
328	880930	0.018792	1.018792	0.018618	4.375117	4.530835	0.0017	605.1495	605.1495		
329	881031	-0.011757	0.988243	-0.011827	4.207364	4.540767	0.0015	653.1031	653.1031		
330	881130	-0.036799	0.963201	-0.037493	3.746615	4.127307	0.0014	719.4646	719.4646		
331	881230	0.019801	1.019801	0.019411	4.372955	4.522991	0.0013	744.1494	744.1494		
332	890131	0.063253	1.063253	0.061333	3.787691	3.657077	0.0014	718.4884	718.4884		
333	890228	0.002709	1.002709	0.002705	4.346529	4.607457	0.0013	761.6202	761.6202		
334	890331	0.016953	1.016953	0.016811	4.378749	4.547294	0.0013	790.9362	790.9362		
335	890428	0.030763	1.030763	0.030299	4.308390	4.378968	0.0012	803.8930	803.8930		
336	890531	0.027435	1.027435	0.027065	4.334348	4.428661	0.0012	821.3852	821.3852		
337	890630	-0.008271	0.991729	-0.008305	4.250284	4.568791	0.0011	882.9381	882.9381		
338	890731	0.031489	1.031489	0.031003	4.301985	4.367405	0.0011	896.3649	896.3649		
339	890831	0.019273	1.019273	0.019090	4.373873	4.526216	0.0011	927.5853	927.5853		
340	890929	0.004573	1.004573	0.004563	4.356790	4.606566	0.0010	980.7641	980.7641		
341	891031	-0.050987	0.949013	-0.052312	3.393081	3.750788	0.0009	1084.1587	1084.1587		
342	891130	-0.008113	0.991887	-0.008146	4.252092	4.569882	0.0009	1165.1858	1165.1858		
343	891229	-0.012152	0.987848	-0.012226	4.202140	4.537115	0.0008	1258.0691	1258.0691		
344	900131	-0.045868	0.954132	-0.046953	3.526117	3.896124	0.0007	1390.0823	1390.0823		
345	900228	0.015867	1.015867	0.015742	4.380056	4.556110	0.0007	1445.9560	1445.9560		
346	900330	0.022186	1.022186	0.021943	4.363747	4.495503	0.0007	1489.6142	1489.6142		
347	900430	-0.026743	0.973257	-0.027107	3.961069	4.336128	0.0006	1630.6606	1630.6606		
348	900531	0.048710	1.048710	0.045652	4.109280	4.071292	0.0006	1615.5859	1615.5859		
349	900629	0.005421	1.005421	0.005406	4.360861	4.605452	0.0006	1706.2006	1706.2006		
350	900731	-0.027254	0.972746	-0.027632	3.951043	4.326834	0.0005	1868.4806	1868.4806		
351	900831	-0.108887	0.891113	-0.116407	1.733101	1.761955	0.0005	1899.5891	1899.5891		
352	900928	-0.080449	0.919551	-0.083870	2.554617	2.771393	0.0005	2060.7817	2060.7817		
353	901031	-0.056236	0.943764	-0.057879	3.250158	3.590734	0.0004	2276.7265	2276.7265		
354	901130	0.036660	1.036660	0.036004	4.248817	4.277898	0.0004	2292.3094	2292.3094		
355	901231	-0.003825	0.996175	-0.003832	4.296515	4.593528	0.0004	2450.7742	2450.7742		
356	910131	0.085290	1.085290	0.081847	3.228254	3.022623	0.0004	2294.6667	2294.6667		
357	910228	0.133728	1.133728	0.125511	1.849364	1.667300	0.0005	2068.7633	2068.7633		
358	910328	0.078008	1.078008	0.075115	3.425439	3.237903	0.0005	1955.5027	1955.5027		
359	910430	0.030970	1.030970	0.030500	4.306591	4.375697	0.0005	1986.8819	1986.8819		
360	910531	0.030289	1.030289	0.029839	4.312430	4.386380	0.0005	2020.9533	2020.9533		

Appendix 3
PDF Equal Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
361	910628	-0.034482	0.965518	-0.035091	3.799079	4.180116	0.0004	2223.6493	2223.6493		
362	910731	0.034965	1.034965	0.034368	4.267688	4.308587	0.0004	2244.9594	2244.9594		
363	910830	0.028569	1.028569	0.028169	4.326135	4.412348	0.0004	2289.6982	2289.6982		
364	910930	0.008659	1.008659	0.008622	4.372951	4.597152	0.0004	2407.0911	2407.0911		
365	911031	0.023892	1.023892	0.023611	4.355757	4.475372	0.0004	2473.1933	2473.1933		
366	911129	-0.025440	0.974560	-0.025769	3.986181	4.359163	0.0004	2704.6064	2704.6064		
367	911231	0.036613	1.036613	0.035959	4.249359	4.278766	0.0004	2723.3232	2723.3232		
368	920131	0.149572	1.149572	0.139390	1.449485	1.307543	0.0004	2456.6402	2456.6402		
369	920228	0.051947	1.051947	0.050643	4.018948	3.948819	0.0004	2413.7731	2413.7731		
370	920331	-0.014197	0.985803	-0.014299	4.173940	4.516670	0.0004	2611.9728	2611.9728		
371	920430	-0.032918	0.967082	-0.033472	3.833505	4.214218	0.0003	2871.3733	2871.3733		
372	920529	0.005418	1.005418	0.005403	4.360847	4.605457	0.0003	3032.4350	3032.4350		
373	920630	-0.039692	0.960308	-0.040501	3.678779	4.057665	0.0003	3344.7522	3344.7522		
374	920731	0.027176	1.027176	0.026813	4.336132	4.432296	0.0003	3418.9297	3418.9297		
375	920831	-0.024521	0.975479	-0.024827	4.003496	4.374828	0.0003	3736.0420	3736.0420		
376	920930	0.012018	1.012018	0.011946	4.379673	4.581850	0.0003	3908.5071	3908.5071		
377	921030	0.016250	1.016250	0.016119	4.379666	4.553078	0.0002	4063.2639	4063.2639		
378	921130	0.067777	1.067777	0.065579	3.682990	3.532110	0.0003	3896.8061	3896.8061		
379	921231	0.035695	1.035695	0.035073	4.259731	4.295527	0.0003	3929.5523	3929.5523		
380	930129	0.066814	1.066814	0.064677	3.705798	3.559030	0.0003	3773.9229	3773.9229		
381	930226	-0.007958	0.992042	-0.007990	4.253854	4.570937	0.0002	4055.2318	4055.2318		
382	930331	0.030881	1.030881	0.030414	4.307367	4.377106	0.0002	4120.8885	4120.8885		
383	930430	-0.012853	0.987147	-0.012836	4.192690	4.530397	0.0002	4452.8126	4452.8126		
384	930528	0.038037	1.038037	0.037331	4.232468	4.252033	0.0002	4473.3963	4473.3963		
385	930630	0.012056	1.012056	0.011984	4.379715	4.581638	0.0002	4679.6385	4679.6385		
386	930730	0.014061	1.014061	0.013963	4.380851	4.569265	0.0002	4880.9034	4880.9034		
387	930831	0.040415	1.040415	0.039620	4.202120	4.205463	0.0002	4884.7858	4884.7858		
388	930930	0.025878	1.025878	0.025549	4.344553	4.449992	0.0002	5003.3356	5003.3356		
389	931029	0.040201	1.040201	0.039414	4.204960	4.209750	0.0002	5009.0356	5009.0356		
390	931130	-0.024537	0.975463	-0.024843	4.003197	4.374559	0.0002	5473.7056	5473.7056		
391	931231	0.016153	1.016153	0.016024	4.379772	4.553854	0.0002	5691.2680	5691.2680		
392	940131	0.048897	1.048897	0.047739	4.072950	4.021263	0.0002	5619.0441	5619.0441		
393	940228	-0.009569	0.990431	-0.009615	4.234977	4.559240	0.0002	6049.2819	6049.2819		
394	940331	-0.046033	0.953967	-0.047126	3.521905	3.891582	0.0001	6684.2462	6684.2462		
395	940429	-0.011011	0.988989	-0.011072	4.217032	4.547399	0.0001	7207.8978	7207.8978		
396	940531	-0.000447	0.999553	-0.000447	4.325079	4.604054	0.0001	7672.8205	7672.8205		
397	940630	-0.026459	0.973541	-0.026815	3.966598	4.341231	0.0001	8397.4945	8397.4945		
398	940729	0.015439	1.015439	0.015321	4.380400	4.559399	0.0001	8740.6456	8740.6456		
399	940831	0.036842	1.036842	0.036180	4.246708	4.274527	0.0001	8797.9021	8797.9021		
400	940930	0.004556	1.004556	0.004546	4.358704	4.606584	0.0001	9302.5075	9302.5075		
401	941031	-0.002367	0.997633	-0.002370	4.309548	4.598947	0.0001	9927.1985	9927.1985		
402	941130	-0.040653	0.959347	-0.041502	3.655702	4.033652	0.0001	10953.5366	10953.5366		
403	941230	-0.012864	0.987136	-0.012947	4.192540	4.530289	0.0001	11835.9501	11835.9501		
404	950131	0.027644	1.027644	0.027269	4.332884	4.425703	0.0001	12089.5018	12089.5018		
405	950228	0.028008	1.028008	0.027623	4.330280	4.420499	0.0001	12341.3814	12341.3814		

Appendix 3
PDF Equal Weighted Returns

	A	B	C	D	E	F	G	H	I	J	K
406	950331	0.018717	1.018717	0.018544	4.375300	4.531543	0.0001	12782.0963	12782.0963		
407	950428	0.026017	1.026017	0.025684	4.343693	4.448139	0.0001	13089.4464	13089.4464		
408	950531	0.020496	1.020496	0.020289	4.370163	4.513890	0.0001	13519.9342	13519.9342		
409	950630	0.048681	1.048681	0.047533	4.076629	4.026278	0.0001	13352.9476	13352.9476		
410	950731	0.055137	1.055137	0.053671	3.958479	3.869965	0.0001	13054.3670	13054.3670		
411	950831	0.030255	1.030255	0.029806	4.312715	4.386907	0.0001	13278.9437	13278.9437		
412	950929	0.025919	1.025919	0.025589	4.344301	4.449447	0.0001	13600.3363	13600.3363		
413	951031	-0.040528	0.959472	-0.041372	3.658719	4.036800	0.0001	15005.7552	15005.7552		
414	951130	0.017244	1.017244	0.017097	4.378293	4.544817	0.0001	15576.4858	15576.4858		
415	951229	0.009816	1.009816	0.009768	4.375937	4.592645	0.0001	16347.8728	16347.8728		
416	960131	0.033370	1.033370	0.032825	4.284166	4.336276	0.0001	16546.7168	16546.7168		
417	960229	0.031571	1.031571	0.031083	4.301245	4.366083	0.0001	16796.1463	16796.1463		
418	960329	0.024126	1.024126	0.023840	4.354543	4.472490	0.0001	17251.0856	17251.0856		
419	960430	0.057383	1.057383	0.055797	3.913569	3.812707	0.0001	16806.4823	16806.4823		
420	960531	0.060966	1.060966	0.059180	3.838141	3.718670	0.0001	16283.3401	16283.3401		
421	960628	-0.030639	0.969361	-0.031118	3.882177	4.261615	0.0001	17874.8499	17874.8499		
422	960731	-0.078673	0.921327	-0.081940	2.606393	2.834075	0.0001	19436.3092	19436.3092		
423	960830	0.044778	1.044778	0.043804	4.139657	4.114072	0.0001	19316.1838	19316.1838		
424	960930	0.028977	1.028977	0.028565	4.323019	4.406321	0.0001	19688.3940	19688.3940		
425	961031	-0.019994	0.980006	-0.020197	4.083817	4.444846	0.0000	21428.9421	21428.9421		
426	961129	0.024713	1.024713	0.024413	4.351373	4.465132	0.0000	21989.1629	21989.1629		
427	961231	-0.001327	0.998673	-0.001328	4.318192	4.601999	0.0000	23434.3719	23434.3719		
428	970131	0.061661	1.061661	0.059835	3.822994	3.700075	0.0000	22680.8945	22680.8945		
429	970228	-0.010435	0.989565	-0.010490	4.224318	4.552284	0.0000	24441.7851	24441.7851		
430	970331	-0.047888	0.952112	-0.049073	3.474104	3.839761	0.0000	27014.3350	27014.3350		
431	970430	-0.021343	0.978657	-0.021574	4.060764	4.425238	0.0000	29439.0063	29439.0063		
432	970530	0.085143	1.085143	0.081712	3.232324	3.026993	0.0000	27568.9130	27568.9130		
433	970630	0.044181	1.044181	0.043233	4.148711	4.127012	0.0000	27424.7211	27424.7211		
434	970731	0.048563	1.048563	0.047421	4.078630	4.029010	0.0000	27091.0788	27091.0788		
435	970829	0.027061	1.027061	0.026701	4.336913	4.433898	0.0000	27696.9102	27696.9102		
436	970930	0.081392	1.081392	0.078249	3.335002	3.138227	0.0000	26062.7130	26062.7130		
437	971031	-0.025680	0.974320	-0.026015	3.981605	4.354992	0.0000	28506.8225	28506.8225		
438	971128	-0.019787	0.980213	-0.019985	4.087286	4.447759	0.0000	31020.9423	31020.9423		
439	971231	-0.022614	0.977386	-0.022874	4.038353	4.405783	0.0000	33843.3871	33843.3871		

Appendix 4
Mean and Std.Deviation S P 500
PD Normal and PD Lognormal

	A	B	C
1			
2			
3			
4	Date	S & P 500	
5	(YYMMDD)	Composite Return	ln(1+Return)
6			
7	251231		
8	260130	0.022472	0.022223225
9	260227	-0.043956	-0.044951342
10	260331	-0.059113	-0.060932232
11	260430	0.022688	0.022434455
12	260528	0.007679	0.007649667
13	260630	0.043184	0.042277575
14	260731	0.045455	0.044452197
15	260831	0.017081	0.016936760
16	260930	0.022901	0.022642708
17	261030	-0.031343	-0.031844703
18	261130	0.022342	0.022096074
19	261231	0.016579	0.016443069
20	270131	-0.020756	-0.020974434
21	270228	0.047691	0.046588695
22	270331	0.006503	0.006481947
23	270430	0.017229	0.017082264
24	270531	0.052223	0.050905069
25	270630	-0.009390	-0.009434364
26	270730	0.064997	0.062971982
27	270831	0.044501	0.043539259
28	270930	0.043214	0.042306332
29	271031	-0.053092	-0.054553339
30	271130	0.067776	0.065577981
31	271231	0.019042	0.018862970
32	280131	-0.005096	-0.005109029
33	280229	-0.017644	-0.017801511
34	280331	0.108343	0.102866107
35	280430	0.032410	0.031895875
36	280531	0.012658	0.012578557
37	280630	-0.040500	-0.041342964
38	280731	0.012507	0.012429434
39	280831	0.074112	0.071494274
40	280929	0.023958	0.023675510
41	281031	0.014506	0.014401795
42	281130	0.119926	0.113262612
43	281231	0.002883	0.002878852
44	290131	0.057084	0.055514174
45	290228	-0.005828	-0.005845049
46	290328	-0.002345	-0.002347754
47	290430	0.016060	0.015932403
48	290531	-0.042791	-0.043733521
49	290629	0.112364	0.106487480
50	290731	0.045619	0.044609055
51	290830	0.097992	0.093483057
52	290930	-0.048880	-0.050115041
53	291031	-0.199271	-0.222232716
54	291127	-0.133747	-0.143578265
55	291231	0.025335	0.025019388
56	300131	0.062471	0.060597327

Appendix 4
Mean and Std.Deviation S P 500
PD Normal and PD Lognormal

	A	B	C
57	300228	0.021501	0.021273114
58	300331	0.079897	0.076865666
59	300430	-0.009547	-0.009592865
60	300529	-0.016466	-0.016603071
61	300630	-0.164557	-0.179793156
62	300731	0.036657	0.036001113
63	300829	0.007544	0.007515686
64	300930	-0.130089	-0.139364371
65	301031	-0.088757	-0.092945677
66	301129	-0.021842	-0.022084068
67	301231	-0.074231	-0.077130535
68	310131	0.048892	0.047734369
69	310228	0.114357	0.108277557
70	310331	-0.069158	-0.071665726
71	310430	-0.095866	-0.100777699
72	310529	-0.137177	-0.147545707
73	310630	0.139017	0.130165610
74	310731	-0.074174	-0.077068967
75	310831	0.009468	0.009423459
76	310930	-0.299423	-0.355850998
77	311031	0.084449	0.081072024
78	311130	-0.097816	-0.102936789
79	311231	-0.145263	-0.156961460
80	320130	-0.028325	-0.028733893
81	320229	0.050697	0.049453753
82	320331	-0.118215	-0.125807017
83	320430	-0.202462	-0.226225797
84	320531	-0.233276	-0.265628386
85	320630	-0.008949	-0.008989283
86	320730	0.376975	0.319889064
87	320831	0.375410	0.318751868
88	320930	-0.036949	-0.037648909
89	321031	-0.138614	-0.149212559
90	321130	-0.058908	-0.060714376
91	321231	0.051908	0.050605658
92	330131	0.007257	0.007230795
93	330228	-0.184438	-0.203877833
94	330331	0.033569	0.033017861
95	330429	0.422222	0.352220437
96	330531	0.158654	0.147258987
97	330630	0.131743	0.123758922
98	330731	-0.087993	-0.092107613
99	330831	0.114573	0.108471372
100	330930	-0.113616	-0.120605014
101	331031	-0.088505	-0.092669170
102	331129	0.102679	0.097742673
103	331230	0.022267	0.022022710
104	340131	0.105941	0.100896556
105	340228	-0.036705	-0.037395580
106	340331	-0.000929	-0.000929432
107	340430	-0.026977	-0.027347559
108	340531	-0.081262	-0.084754290
109	340630	0.020812	0.020598389
110	340731	-0.115189	-0.122381216
111	340831	0.054147	0.052731909
112	340929	-0.005464	-0.005478982

Appendix 4
Mean and Std.Deviation S P 500
PD Normal and PD Lognormal

	A	B	C
113	341031	-0.031868	-0.032386837
114	341130	0.082860	0.079605689
115	341231	-0.004193	-0.004201815
116	350131	-0.042105	-0.043017110
117	350228	-0.039560	-0.040363766
118	350330	-0.030892	-0.031379218
119	350430	0.095632	0.091331366
120	350531	0.032328	0.031816446
121	350629	0.067850	0.065647281
122	350731	0.083089	0.079817144
123	350831	0.021661	0.021429734
124	350930	0.023852	0.023571985
125	351031	0.075065	0.072381125
126	351130	0.039326	0.038572426
127	351231	0.037066	0.036395572
128	360131	0.065525	0.063467635
129	360229	0.016771	0.016631920
130	360331	0.025430	0.025112037
131	360430	-0.077078	-0.080210555
132	360529	0.045752	0.044736244
133	360630	0.030556	0.030098462
134	360731	0.068059	0.065842982
135	360831	0.008833	0.008794217
136	360930	0.001251	0.001250218
137	361031	0.074953	0.072276940
138	361130	0.004067	0.004058752
139	361231	-0.005787	-0.005803810
140	370130	0.037835	0.037136813
141	370227	0.014582	0.014476705
142	370331	-0.009397	-0.009441430
143	370430	-0.083147	-0.086808125
144	370528	-0.010347	-0.010400902
145	370630	-0.052891	-0.054341092
146	370731	0.102597	0.097668306
147	370831	-0.055359	-0.056950318
148	370930	-0.142145	-0.153320191
149	371030	-0.101744	-0.107300173
150	371130	-0.101133	-0.106620198
151	371231	-0.050405	-0.051719701
152	380131	0.013270	0.013182725
153	380228	0.060804	0.059027111
154	380331	-0.250441	-0.288270245
155	380430	0.141177	0.132060186
156	380531	-0.044330	-0.045342614
157	380630	0.247033	0.220767130
158	380730	0.072664	0.070145274
159	380831	-0.027419	-0.027801916
160	380930	0.014925	0.014814718
161	381031	0.075980	0.073231874
162	381130	-0.033409	-0.033979831
163	381231	0.037706	0.037012508
164	390131	-0.068887	-0.071374634
165	390228	0.032520	0.032002416
166	390331	-0.135433	-0.145526475
167	390429	-0.005464	-0.005478982
168	390531	0.062271	0.060409069

Appendix 4
Mean and Std.Deviation S P 500
PD Normal and PD Lognormal

	A	B	C
169	390630	-0.063793	-0.065918673
170	390731	0.108656	0.103148471
171	390831	-0.071429	-0.074108434
172	390930	0.164580	0.152360507
173	391031	-0.014593	-0.014700525
174	391130	-0.049104	-0.050350581
175	391230	0.023770	0.023491892
176	400131	-0.035228	-0.035863475
177	400229	0.006639	0.006617059
178	400330	0.009893	0.009844385
179	400430	-0.004898	-0.004910035
180	400531	-0.239541	-0.273833081
181	400629	0.076591	0.073799567
182	400731	0.031062	0.030589339
183	400831	0.026239	0.025900663
184	400930	0.009470	0.009425441
185	401031	0.039400	0.038643624
186	401130	-0.042419	-0.043344966
187	401231	-0.002828	-0.002832006
188	410131	-0.048204	-0.049404553
189	410228	-0.014896	-0.015008060
190	410331	0.004032	0.004023893
191	410430	-0.065261	-0.067487933
192	410531	0.004296	0.004286799
193	410630	0.053476	0.052095173
194	410731	0.054822	0.053372032
195	410830	-0.008662	-0.008699733
196	410930	-0.009709	-0.009756440
197	411031	-0.068627	-0.071095437
198	411129	-0.042105	-0.043017110
199	411231	-0.045055	-0.046101532
200	420131	0.013809	0.013714525
201	420228	-0.024972	-0.025289090
202	420331	-0.067520	-0.069907575
203	420430	-0.043695	-0.044678379
204	420529	0.063969	0.062006255
205	420630	0.018405	0.018237678
206	420731	0.031325	0.030844383
207	420831	0.007009	0.006984551
208	420930	0.026682	0.026332243
209	421031	0.064407	0.062417837
210	421130	-0.013800	-0.013896105
211	421231	0.051668	0.050377475
212	430130	0.071648	0.069197651
213	430227	0.050621	0.049381418
214	430331	0.052727	0.051383940
215	430430	0.000864	0.000863627
216	430529	0.044866	0.043888648
217	430630	0.019818	0.019624180
218	430731	-0.054251	-0.055778073
219	430831	0.010274	0.010221581
220	430930	0.023729	0.023451843
221	431030	-0.013245	-0.013333497
222	431130	-0.075503	-0.078505473
223	431231	0.058984	0.057309958
224	440131	0.015424	0.015306259

Appendix 4
Mean and Std.Deviation S P 500
PD Normal and PD Lognormal

	A	B	C
225	440229	-0.002532	-0.002535211
226	440331	0.016920	0.016778451
227	440429	-0.012479	-0.012557517
228	440531	0.040438	0.039641778
229	440630	0.051012	0.049753510
230	440731	-0.020801	-0.021020388
231	440831	0.008655	0.008617760
232	440930	-0.003120	-0.003124877
233	441031	0.000000	0.000000000
234	441130	0.003912	0.003904368
235	441230	0.035074	0.034472922
236	450131	0.014307	0.014205621
237	450228	0.061618	0.059794159
238	450331	-0.046154	-0.047253046
239	450430	0.087977	0.084320009
240	450531	0.011456	0.011390877
241	450630	-0.003331	-0.003336560
242	450731	-0.020053	-0.020256790
243	450831	0.057981	0.056362375
244	450929	0.041908	0.041053648
245	451031	0.030322	0.029871375
246	451130	0.032432	0.031917184
247	451231	0.009889	0.009840424
248	460131	0.069700	0.067378235
249	460228	-0.069467	-0.071997739
250	460330	0.046296	0.045256308
251	460430	0.037611	0.036920955
252	460531	0.022388	0.022141067
253	460628	-0.039103	-0.039888056
254	460731	-0.025502	-0.025832812
255	460830	-0.072940	-0.075736991
256	460930	-0.101502	-0.107030799
257	461031	-0.008021	-0.008053341
258	461130	-0.011456	-0.011522125
259	461231	0.042945	0.042048442
260	470131	0.023529	0.023258460
261	470228	-0.014687	-0.014795922
262	470331	-0.016850	-0.016993576
263	470430	-0.038893	-0.039669534
264	470529	-0.008916	-0.008955985
265	470630	0.052595	0.051258544
266	470731	0.036160	0.035521572
267	470829	-0.027919	-0.028316145
268	470930	-0.013708	-0.013802822
269	471031	0.021178	0.020956863
270	471129	-0.028516	-0.028930480
271	471231	0.020680	0.020469072
272	480131	-0.039869	-0.040685545
273	480228	-0.046971	-0.048109946
274	480331	0.077143	0.074312166
275	480430	0.026525	0.026179312
276	480528	0.078165	0.075260522
277	480630	0.002996	0.002991521
278	480730	-0.053166	-0.054831492
279	480831	0.007571	0.007542484
280	480930	-0.030056	-0.030516941

Appendix 4
Mean and Std.Deviation S P 500
PD Normal and PD Lognormal

	A	B	C
281	481030	0.067786	0.065587346
282	481130	-0.108222	-0.114538056
283	481231	0.030508	0.030051885
284	490131	0.001316	0.001315135
285	490228	-0.039422	-0.040220092
286	490331	0.030096	0.029652002
287	490430	-0.021248	-0.021476988
288	490531	-0.037313	-0.038026946
289	490630	-0.002114	-0.002116238
290	490729	0.062147	0.060292331
291	490831	0.011968	0.011896950
292	490930	0.023653	0.023377602
293	491031	0.029525	0.029097531
294	491130	0.001247	0.001246223
295	491231	0.043587	0.042663817
296	500131	0.017303	0.017155008
297	500228	0.009971	0.009921618
298	500331	0.004065	0.004056760
299	500429	0.045113	0.044125014
300	500531	0.039292	0.038539712
301	500630	-0.058040	-0.059792468
302	500731	0.008479	0.008443255
303	500831	0.032511	0.031993700
304	500929	0.055917	0.054409584
305	501031	0.004113	0.004104565
306	501130	-0.001024	-0.001024525
307	501230	0.046130	0.045097641
308	510131	0.061244	0.059441805
309	510228	0.006464	0.006443198
310	510331	-0.018349	-0.018519431
311	510430	0.048131	0.047008578
312	510531	-0.040571	-0.041416963
313	510629	-0.026022	-0.026366563
314	510731	0.068702	0.066444828
315	510831	0.039286	0.038533939
316	510928	-0.000859	-0.000859369
317	511031	-0.013758	-0.013853518
318	511130	-0.002616	-0.002619428
319	511231	0.038899	0.038161499
320	520131	0.015566	0.015446093
321	520229	-0.036454	-0.037135050
322	520331	0.047721	0.046617329
323	520430	-0.043086	-0.044041756
324	520529	0.023156	0.022891968
325	520630	0.046102	0.045070875
326	520731	0.017628	0.017474429
327	520829	-0.014567	-0.014674140
328	520930	-0.019577	-0.019771168
329	521031	-0.000815	-0.000815332
330	521128	0.046493	0.045444574
331	521231	0.035464	0.034849635
332	530130	-0.007151	-0.007176691
333	530227	-0.018196	-0.018363583
334	530331	-0.023552	-0.023833781
335	530430	-0.026493	-0.026850264
336	530529	-0.003249	-0.003254289

Appendix 4
Mean and Std.Deviation S P 500
PD Normal and PD Lognormal

	A	B	C
337	530630	-0.016300	-0.016434306
338	530731	0.025269	0.024955017
339	530831	-0.057778	-0.059514363
340	530930	0.001286	0.001285174
341	531030	0.050964	0.049707838
342	531130	0.008965	0.008925053
343	531231	0.002019	0.002016965
344	540129	0.051189	0.049921904
345	540226	0.002684	0.002680405
346	540331	0.030210	0.029762665
347	540430	0.048998	0.047835423
348	540528	0.032909	0.032379093
349	540630	0.000685	0.000684765
350	540730	0.057172	0.055597418
351	540831	-0.034003	-0.034594550
352	540930	0.083138	0.079862384
353	541029	-0.019499	-0.019691613
354	541130	0.080808	0.077708910
355	541231	0.050818	0.049568908
356	550131	0.018066	0.017904749
357	550228	0.003549	0.003542717
358	550331	-0.004897	-0.004909030
359	550429	0.037726	0.037031781
360	550531	-0.001317	-0.001317868
361	550630	0.082300	0.079088406
362	550729	0.060687	0.058916811
363	550831	-0.007812	-0.007842674
364	550930	0.011348	0.011284094
365	551031	-0.030456	-0.030929421
366	551130	0.074870	0.072199724
367	551230	-0.000659	-0.000659217
368	560131	-0.036500	-0.037182791
369	560229	0.034687	0.034098966
370	560329	0.069255	0.066962144
371	560430	-0.002063	-0.002065131
372	560531	-0.065730	-0.067989803
373	560629	0.039159	0.038411732
374	560731	0.051522	0.050238638
375	560831	-0.038064	-0.038807359
376	560928	-0.045464	-0.046529920
377	561031	0.005072	0.005059181
378	561130	-0.010970	-0.011030614
379	561231	0.035271	0.034663228
380	570131	-0.041783	-0.042681013
381	570228	-0.032648	-0.033192837
382	570329	0.019649	0.019458450
383	570430	0.036953	0.036286605
384	570531	0.036948	0.036281783
385	570628	-0.001265	-0.001265801
386	570731	0.011400	0.011335510
387	570830	-0.056147	-0.057784845
388	570930	-0.061919	-0.063918980
389	571031	-0.032060	-0.032585177
390	571129	0.016074	0.015946181
391	571231	-0.041467	-0.042351288
392	580131	0.042761	0.041872003

Appendix 4
Mean and Std.Deviation S P 500
PD Normal and PD Lognormal

	A	B	C
393	580228	-0.020623	-0.020838624
394	580331	0.030852	0.030385645
395	580430	0.031829	0.031332956
396	580529	0.014963	0.014852159
397	580630	0.026083	0.025748640
398	580731	0.043103	0.042199925
399	580829	0.011867	0.011797139
400	580930	0.048377	0.047243254
401	581031	0.025370	0.025053523
402	581128	0.022404	0.022156717
403	581231	0.052020	0.050712126
404	590130	0.003804	0.003796783
405	590227	-0.000180	-0.000180016
406	590331	0.000541	0.000540854
407	590430	0.038781	0.038047910
408	590529	0.018927	0.018750113
409	590630	-0.003579	-0.003585420
410	590731	0.034890	0.034295141
411	590831	-0.015039	-0.015153233
412	590930	-0.045638	-0.046712225
413	591030	0.011252	0.011189167
414	591130	0.013213	0.013126470
415	591231	0.027625	0.027250314
416	600129	-0.071464	-0.074146127
417	600229	0.009171	0.009129202
418	600331	-0.013899	-0.013996496
419	600429	-0.017528	-0.017683434
420	600531	0.026853	0.026498785
421	600630	0.019524	0.019335852
422	600729	-0.024772	-0.025083989
423	600831	0.026121	0.025785674
424	600930	-0.060393	-0.062293576
425	601031	-0.002429	-0.002431955
426	601130	0.040270	0.039480295
427	601230	0.046273	0.045234326
428	610131	0.063156	0.061241843
429	610228	0.026870	0.026515341
430	610330	0.025536	0.025215403
431	610428	0.003843	0.003835635
432	610531	0.019139	0.018958153
433	610630	-0.028846	-0.029270224
434	610731	0.032797	0.032270656
435	610831	0.019623	0.019432951
436	610929	-0.019686	-0.019882350
437	611031	0.028323	0.027929320
438	611130	0.039347	0.038592631
439	611229	0.003225	0.003219811
440	Mean	0.006354079	0.004046007
441	Standard Deviation	0.068146318	0.067950558

	A	B	C	D	E	F	G	H	I	J	K
	S & P 500		S & P 500	S & P 500	S & P 500	Mean	Normal	Lognormal			
	Composite Return		1+return	ln(1+return)	PD Normal	Standard Deviation	L1/L2	L2/L1	λ		
	Date	(YYMMDD)				S & P 500	L1/L2	L2/L1	λ		
						PD Lognormal					
1	620131	-0.037876	0.962124	-0.038612	4.742334	5.010797	0.9464	1.0566	1.0566		
2	620228	0.016270	1.016270	0.016139	5.792553	5.686307	0.9641	1.0372	1.0372		
3	620330	-0.005860	0.994140	-0.005877	5.760921	5.843035	0.9506	1.0520	1.0520		
4	620430	-0.061970	0.938030	-0.063973	3.541491	3.792391	0.8877	1.1265	1.1265		
5	620531	-0.085990	0.914010	-0.089914	2.337382	2.463284	0.8403	1.1901	1.1901		
6	620629	-0.081838	0.918162	-0.085381	2.533844	2.689627	0.7916	1.2633	1.2633		
7	620731	0.063562	1.063562	0.061624	4.115625	3.855169	0.8451	1.1833	1.1833		
8	620831	0.015284	1.015284	0.015168	5.804154	5.705736	0.8596	1.1633	1.1633		
9	620928	-0.048207	0.951793	-0.049408	4.248825	4.526868	0.8068	1.2394	1.2394		
10	621031	0.004443	1.004443	0.004433	5.851900	5.845002	0.8078	1.2379	1.2379		
11	621130	0.101557	1.101557	0.098725	2.206271	2.102617	0.8476	1.1798	1.1798		
12	621231	0.013492	1.013492	0.013402	5.822175	5.738260	0.8600	1.1628	1.1628		
13	630131	0.049128	1.049128	0.047959	4.807465	4.541488	0.9104	1.0984	1.0984		
14	630228	-0.028852	0.971148	-0.029276	5.122840	5.360572	0.8700	1.1494	1.1494		
15	630329	0.035464	1.035464	0.034850	5.343727	5.116320	0.9087	1.1005	1.1005		
16	630430	0.048520	1.048520	0.047380	4.834271	4.569078	0.9614	1.0401	1.0401		
17	630531	0.014327	1.014327	0.014225	5.814271	5.723556	0.9767	1.0239	1.0239		
18	630628	-0.020198	0.979802	-0.020405	5.426273	5.616461	0.9436	1.0598	1.0598		
19	630731	-0.003460	0.996540	-0.003466	5.793806	5.855560	0.9336	1.0711	1.0711		
20	630830	0.048749	1.048749	0.047598	4.824202	4.558704	0.9880	1.0121	1.0121		
21	630930	-0.011034	0.988966	-0.011095	5.666699	5.791002	0.9668	1.0343	1.0343		
22	631031	0.032218	1.032218	0.031710	5.447388	5.235457	1.0059	0.9941	1.0059		
23	631129	-0.010539	0.989461	-0.010595	5.677062	5.797454	0.9850	1.0152	1.0152		
24	631231	0.024444	1.024444	0.024150	5.651528	5.485559	1.0148	0.9854	1.0148		
25	640131	0.026926	1.026926	0.026570	5.593439	5.411514	1.0490	0.9533	1.0490		
26	640228	0.009665	1.009665	0.009817	5.846437	5.792788	1.0587	0.9446	1.0587		
27	640331	0.015167	1.015167	0.015053	5.805451	5.707969	1.0768	0.9287	1.0768		
28	640430	0.006077	1.006077	0.006059	5.854153	5.833045	1.0807	0.9254	1.0807		
29	640528	0.011452	1.011452	0.011387	5.837843	5.770818	1.0932	0.9147	1.0932		
30	640630	0.016424	1.016424	0.016291	5.790634	5.683175	1.1139	0.8978	1.1139		
31	640731	0.018240	1.018240	0.018076	5.765828	5.644300	1.1379	0.8788	1.1379		
32	640831	-0.016230	0.983770	-0.016363	5.541386	5.704718	1.1053	0.9047	1.1053		
33	640930	0.028718	1.028718	0.028313	5.547294	5.354574	1.1451	0.8733	1.1451		
34	641030	0.008078	1.008078	0.008046	5.852329	5.813941	1.1526	0.8676	1.1526		

Appendix 5
PDF S P 500

	A	B	C	D	E	F	G	H	I	J	K
42	641130	-0.005185	0.994815	-0.005198	5.770874	5.847302	1.1376	0.8791	1.1376		1.1376
43	641231	0.003909	1.003909	0.003901	5.850434	5.848193	1.1380	0.8787	1.1380		1.1380
44	650129	0.033156	1.033156	0.032618	5.418491	5.201850	1.1854	0.8436	1.1854		1.1854
45	650226	-0.001485	0.998515	-0.001486	5.815596	5.860345	1.1763	0.8501	1.1763		1.1763
46	650331	-0.014526	0.985474	-0.014633	5.585751	5.736724	1.1454	0.8731	1.1454		1.1454
47	650430	0.034239	1.034239	0.033666	5.384049	5.162209	1.1946	0.8371	1.1946		1.1946
48	650528	-0.007743	0.992257	-0.007773	5.730272	5.828050	1.1746	0.8514	1.1746		1.1746
49	650630	-0.048632	0.951368	-0.049854	4.227581	4.505437	1.1021	0.9073	1.1021		1.1021
50	650730	0.013433	1.013433	0.013344	5.822701	5.739269	1.1181	0.8943	1.1181		1.1181
51	650831	0.022522	1.022522	0.022272	5.691735	5.538876	1.1490	0.8703	1.1490		1.1490
52	650930	0.032006	1.032006	0.031504	5.453797	5.242957	1.1952	0.8367	1.1952		1.1952
53	651029	0.027345	1.027345	0.026978	5.582961	5.398456	1.2361	0.8090	1.2361		1.2361
54	651130	-0.008764	0.991236	-0.008803	5.711899	5.818031	1.2135	0.8241	1.2135		1.2135
55	651231	0.008951	1.008951	0.008911	5.849952	5.804085	1.2231	0.8176	1.2231		1.2231
56	660131	0.004869	1.004869	0.004857	5.852812	5.842203	1.2253	0.8161	1.2253		1.2253
57	660228	-0.017873	0.982127	-0.018035	5.495689	5.670482	1.1875	0.8421	1.1875		1.1875
58	660331	-0.021815	0.978185	-0.022056	5.374823	5.575106	1.1449	0.8734	1.1449		1.1449
59	660429	0.020509	1.020509	0.020302	5.729264	5.590789	1.1732	0.8523	1.1732		1.1732
60	660531	-0.054140	0.945860	-0.055661	3.947752	4.219256	1.0977	0.9110	1.0977		1.0977
61	660630	-0.016138	0.983862	-0.016270	5.543861	5.706538	1.0665	0.9377	1.0665		1.0665
62	660729	-0.013453	0.986547	-0.013544	5.612069	5.755029	1.0400	0.9616	1.0400		1.0400
63	660831	-0.077751	0.922249	-0.080940	2.733423	2.912018	0.9762	1.0244	1.0244		1.0244
64	660930	-0.007004	0.992996	-0.007029	5.742804	5.834471	0.9608	1.0408	1.0408		1.0408
65	661031	0.047544	1.047544	0.046448	4.876802	4.613048	1.0158	0.9845	1.0158		1.0158
66	661130	0.003117	1.003117	0.003112	5.847600	5.852271	1.0150	0.9853	1.0150		1.0150
67	661230	-0.001492	0.998508	-0.001493	5.815527	5.860336	1.0072	0.9928	1.0072		1.0072
68	670131	0.078178	1.078178	0.075273	3.359315	3.143667	1.0763	0.9291	1.0763		1.0763
69	670228	0.001963	1.001963	0.001961	5.842061	5.856807	1.0736	0.9315	1.0736		1.0736
70	670331	0.039410	1.039410	0.038653	5.204439	4.961409	1.1262	0.8880	1.1262		1.1262
71	670428	0.042239	1.042239	0.041371	5.096293	4.844285	1.1848	0.8440	1.1848		1.1848
72	670531	-0.052441	0.947559	-0.053866	4.034843	4.309070	1.1094	0.9014	1.1094		1.1094
73	670630	0.017512	1.017512	0.017360	5.776252	5.660313	1.1321	0.8833	1.1321		1.1321
74	670731	0.045344	1.045344	0.044346	4.970308	4.710619	1.1945	0.8372	1.1945		1.1945
75	670831	-0.011715	0.988285	-0.011784	5.651986	5.781620	1.1677	0.8564	1.1677		1.1677
76	670929	0.032785	1.032785	0.032259	5.430025	5.215224	1.2158	0.8225	1.2158		1.2158
77	671031	-0.029056	0.970944	-0.029486	5.114901	5.353550	1.1616	0.8609	1.1616		1.1616
78	671130	0.001065	1.001065	0.001064	5.836596	5.859178	1.1571	0.8642	1.1571		1.1571
79	671229	0.026277	1.026277	0.025938	5.609288	5.431426	1.1950	0.8368	1.1950		1.1950
80	680131	-0.043848	0.956152	-0.044838	4.462952	4.740291	1.1251	0.8888	1.1251		1.1251
81	680229	-0.031223	0.968777	-0.031721	5.028536	5.276309	1.0723	0.9326	1.0723		1.0723
82	680329	0.009400	1.009400	0.009356	5.848357	5.798660	1.0815	0.9247	1.0815		1.0815

	A	B	C	D	E	F	G	H	I	J	K
83	680430	0.081929	1.081929	0.078746	3.165175	2.965472	1.1543	0.8663	1.1543		1.1543
84	680531	0.011169	1.011169	0.011107	5.839607	5.774953	1.1672	0.8567	1.1672		1.1672
85	680628	0.009120	1.009120	0.009079	5.849381	5.802072	1.1767	0.8498	1.1767		1.1767
86	680730	-0.018478	0.981522	-0.018651	5.878155	5.670500	1.1395	0.8776	1.1395		1.1395
87	680830	0.011459	1.011459	0.011394	5.877799	5.770715	1.1528	0.8675	1.1528		1.1528
88	680930	0.038539	1.038539	0.037815	5.236378	4.996489	1.2081	0.8277	1.2081		1.2081
89	681031	0.007208	1.007208	0.007182	5.853742	5.822846	1.2145	0.8234	1.2145		1.2145
90	681129	0.047964	1.047964	0.046849	4.858576	4.594175	1.2844	0.7786	1.2844		1.2844
91	681231	-0.041617	0.958383	-0.042508	4.569447	4.844550	1.2115	0.8254	1.2115		1.2115
92	680131	-0.008184	0.991816	-0.008218	5.722487	5.823885	1.1904	0.8401	1.1904		1.1904
93	680228	-0.047374	0.952626	-0.048533	4.290292	4.568570	1.1179	0.8945	1.1179		1.1179
94	680328	0.034444	1.034444	0.033864	5.377401	5.154606	1.1662	0.8575	1.1662		1.1662
95	680430	0.021476	1.021476	0.021249	5.711827	5.566362	1.1967	0.8356	1.1967		1.1967
96	680529	-0.002218	0.997782	-0.002220	5.808069	5.859150	1.1862	0.8430	1.1862		1.1862
97	680630	-0.055577	0.944423	-0.057181	3.873680	4.142371	1.1093	0.9015	1.1093		1.1093
98	680731	-0.060178	0.939822	-0.062065	3.634847	3.891559	1.0361	0.9651	1.0361		1.0361
99	680829	0.040074	1.040074	0.039292	5.179652	4.934347	1.0876	0.9194	1.0876		1.0876
100	680930	-0.025024	0.974976	-0.025342	5.265372	5.484094	1.0443	0.9576	1.0443		1.0443
101	681031	0.044244	1.044244	0.043293	5.015770	4.758543	1.1007	0.9085	1.1007		1.1007
102	681128	-0.035274	0.964726	-0.035911	4.857786	5.119497	1.0444	0.9575	1.0444		1.0444
103	681231	-0.018655	0.981345	-0.018831	5.472954	5.653036	1.0112	0.9890	1.0112		1.0112
104	700130	-0.076472	0.923528	-0.079554	2.796986	2.982497	0.9483	1.0545	0.9483		0.9483
105	700227	0.052693	1.052693	0.051352	4.645808	4.376955	1.0065	0.9935	1.0065		1.0065
106	700331	0.001453	1.001453	0.001452	5.839081	5.858278	1.0032	0.9968	1.0032		1.0032
107	700430	-0.090483	0.909517	-0.094842	2.132969	2.238816	0.9558	1.0463	0.9558		0.9558
108	700529	-0.060967	0.939033	-0.062905	3.593750	3.847978	0.8926	1.1203	0.8926		0.8926
109	700630	-0.050033	0.949967	-0.051328	4.157151	4.434079	0.8369	1.1949	0.8369		0.8369
110	700731	0.073295	1.073295	0.070733	3.613553	3.379475	0.8949	1.1175	0.8949		0.8949
111	700831	0.044459	1.044459	0.043469	5.006954	4.749223	0.9434	1.0600	0.9434		0.9434
112	700930	0.032988	1.032988	0.032465	5.423419	5.207559	0.9825	1.0178	0.9825		0.9825
113	701030	-0.011400	0.988600	-0.011465	5.659857	5.786033	0.9609	1.0407	0.9609		0.9609
114	701130	0.047447	1.047447	0.046356	4.880995	4.617396	1.0158	0.9845	1.0158		1.0158
115	701231	0.056766	1.056766	0.055213	4.452818	4.184189	1.0810	0.9251	1.0810		1.0810
116	710129	0.040477	1.040477	0.039679	5.164427	4.917792	1.1352	0.8809	1.1352		1.1352
117	710226	0.009074	1.009074	0.009033	5.849540	5.802623	1.1444	0.8738	1.1444		1.1444
118	710331	0.036796	1.036796	0.036135	5.298283	5.065204	1.1971	0.8354	1.1971		1.1971
119	710430	0.036288	1.036288	0.035645	5.315809	5.084845	1.2514	0.7991	1.2514		1.2514
120	710528	-0.041558	0.958442	-0.042446	4.572231	4.847258	1.1804	0.8471	1.1804		1.1804
121	710630	0.000703	1.000703	0.000703	5.834107	5.859846	1.1752	0.8509	1.1752		1.1752
122	710730	-0.041324	0.958676	-0.042202	4.583256	4.857970	1.1088	0.9019	1.1088		1.1088
123	710831	0.036095	1.036095	0.035459	5.322404	5.092260	1.1589	0.8629	1.1589		1.1589

Appendix 5
PDF S P 500

	A	B	C	D	E	F	G	H	I	J	K
124	710930	-0.006968	0.993032	-0.006992	5.743398	5.834766	1.1407	0.8766	1.1407		
125	711029	-0.041794	0.958206	-0.042692	4.561085	4.836412	1.0758	0.9295	1.0758		
126	711130	-0.002547	0.997453	-0.002550	5.804475	5.858391	1.0659	0.9382	1.0659		
127	711231	0.086179	1.086179	0.082666	2.947919	2.767723	1.1353	0.8808	1.1353		
128	720131	0.018121	1.018121	0.017959	5.767576	5.646956	1.1596	0.8624	1.1596		
129	720229	0.025303	1.025303	0.024988	5.632201	5.460582	1.1960	0.8361	1.1960		
130	720330	0.005912	1.005912	0.005895	5.854078	5.834402	1.2000	0.8333	1.2000		
131	720428	0.004384	1.004384	0.004374	5.851756	5.845372	1.2013	0.8324	1.2013		
132	720531	0.017275	1.017275	0.017127	5.779507	5.665403	1.2255	0.8160	1.2255		
133	720630	-0.021821	0.978179	-0.022063	5.374627	5.574947	1.1815	0.8464	1.1815		
134	720731	0.002333	1.002333	0.002330	5.844019	5.855535	1.1792	0.8480	1.1792		
135	720831	0.034454	1.034454	0.033874	5.377075	5.154235	1.2302	0.8129	1.2302		
136	720929	-0.004861	0.995139	-0.004873	5.775457	5.849144	1.2147	0.8233	1.2147		
137	721031	0.009317	1.009317	0.009274	5.848671	5.799681	1.2249	0.8164	1.2249		
138	721130	0.045617	1.045617	0.044607	4.958889	4.698634	1.2928	0.7735	1.2928		
139	721229	0.011828	1.011828	0.011759	5.835346	5.765180	1.3085	0.7642	1.3085		
140	730131	-0.017111	0.982889	-0.017259	5.517234	5.686770	1.2695	0.7877	1.2695		
141	730228	-0.037490	0.962510	-0.038211	4.759724	5.027296	1.2019	0.8320	1.2019		
142	730330	-0.001433	0.998567	-0.001434	5.816105	5.860403	1.1928	0.8383	1.1928		
143	730430	-0.040800	0.959200	-0.041656	4.607843	4.881806	1.1259	0.8882	1.1259		
144	730531	-0.018884	0.981116	-0.019065	5.466178	5.647788	1.0897	0.9177	1.0897		
145	730629	-0.006575	0.993425	-0.006597	5.749781	5.837879	1.0733	0.9317	1.0733		
146	730731	0.037982	1.037982	0.037278	5.256455	5.018666	1.1241	0.8896	1.1241		
147	730831	-0.036685	0.963315	-0.037375	4.795702	5.061291	1.0651	0.9389	1.0651		
148	730928	0.040096	1.040096	0.039313	5.178825	4.933446	1.1181	0.8944	1.1181		
149	731031	-0.001291	0.998709	-0.001292	5.817477	5.860546	1.1099	0.9010	1.1099		
150	731130	-0.113861	0.886139	-0.120881	1.235138	1.222462	1.1214	0.8918	1.1214		
151	731231	0.016569	1.016569	0.016433	5.788800	5.680203	1.1428	0.8750	1.1428		
152	740131	-0.010046	0.989954	-0.010097	5.687103	5.803571	1.1199	0.8929	1.1199		
153	740228	-0.003624	0.996376	-0.003631	5.791782	5.854939	1.1078	0.9027	1.1078		
154	740329	-0.023280	0.976720	-0.023555	5.326041	5.535013	1.0660	0.9381	1.0660		
155	740430	-0.039051	0.960949	-0.039834	4.688861	4.959800	1.0078	0.9923	1.0078		
156	740531	-0.033551	0.966449	-0.034127	4.931820	5.188107	0.9580	1.0439	1.0439		
157	740628	-0.014665	0.985335	-0.014774	5.582250	5.734247	0.9326	1.0723	1.0723		
158	740731	-0.077791	0.922209	-0.080983	2.731444	2.909819	0.8754	1.1423	1.1423		
159	740830	-0.090279	0.909721	-0.094617	2.142052	2.249079	0.8338	1.1994	1.1994		
160	740930	-0.119335	0.880665	-0.127078	1.068498	1.035878	0.8600	1.1628	1.1628		
161	741031	0.163047	1.163047	0.151043	0.416292	0.486297	0.7362	1.3583	1.3583		
162	741129	-0.053180	0.946820	-0.054646	3.997034	4.270158	0.6891	1.4511	1.4511		
163	741231	-0.020151	0.979849	-0.020357	5.427730	5.617617	0.6658	1.5019	1.5019		
164	750131	0.122812	1.122812	0.115836	1.359236	1.351084	0.6698	1.4929	1.4929		

Appendix 5
PDF S P 500

	A	B	C	D	E	F	G	H	I	J	K
165	750228	0.059886	1.059886	0.058161	4.300022	4.033983	0.7140	1.4005	1.4005		
166	750331	0.021694	1.021694	0.021462	5.707745	5.560724	0.7329	1.3645	1.3645		
167	750430	0.047265	1.047265	0.046182	4.888844	4.625543	0.7746	1.2910	1.2910		
168	750530	0.044101	1.044101	0.043156	5.021615	4.764728	0.8164	1.2249	1.2249		
169	750630	0.044323	1.044323	0.043369	5.012535	4.755121	0.8606	1.1620	1.1620		
170	750731	-0.067654	0.932346	-0.070051	3.246063	3.474801	0.8039	1.2439	1.2439		
171	750829	-0.021070	0.978930	-0.021295	5.398844	5.594541	0.7758	1.2890	1.2890		
172	750930	-0.034645	0.965355	-0.035259	4.885045	5.144864	0.7366	1.3576	1.3576		
173	751031	0.061643	1.061643	0.059818	4.212407	3.948706	0.7858	1.2726	1.2726		
174	751128	0.024708	1.024708	0.024408	5.645676	5.477957	0.8099	1.2348	1.2348		
175	751231	-0.011508	0.988492	-0.011575	5.656514	5.784534	0.7919	1.2627	1.2627		
176	760130	0.118306	1.118306	0.111815	1.518520	1.492625	0.8057	1.2412	1.2412		
177	760227	-0.011402	0.988598	-0.011468	5.658814	5.786005	0.7880	1.2691	1.2691		
178	760331	0.030689	1.030689	0.030228	5.492591	5.288740	0.8183	1.2220	1.2220		
179	760430	-0.010995	0.989005	-0.011056	5.667526	5.791522	0.8008	1.2487	1.2487		
180	760528	-0.014364	0.985636	-0.014468	5.589805	5.739579	0.7799	1.2822	1.2822		
181	760630	0.040926	1.040926	0.040111	5.147305	4.899232	0.8194	1.2204	1.2204		
182	760730	-0.008055	0.991945	-0.008088	5.724788	5.825129	0.8053	1.2418	1.2418		
183	760831	-0.005124	0.994876	-0.005137	5.771747	5.847659	0.7949	1.2581	1.2581		
184	760930	0.022641	1.022641	0.022388	5.689369	5.535680	0.8169	1.2241	1.2241		
185	761029	-0.022235	0.977765	-0.022486	5.361046	5.563865	0.7871	1.2704	1.2704		
186	761130	-0.007775	0.992225	-0.007805	5.729715	5.827756	0.7739	1.2922	1.2922		
187	761231	0.052498	1.052498	0.051166	4.654838	4.386067	0.8213	1.2175	1.2175		
188	770131	-0.050530	0.949470	-0.051851	4.132030	4.408514	0.7698	1.2990	1.2990		
189	770228	-0.021660	0.978340	-0.021898	5.379865	5.579203	0.7423	1.3472	1.3472		
190	770331	-0.014025	0.985975	-0.014124	5.598197	5.745449	0.7233	1.3826	1.3826		
191	770429	0.000203	1.000203	0.000203	5.830402	5.860495	0.7196	1.3897	1.3897		
192	770531	-0.023568	0.976432	-0.023850	5.316214	5.526842	0.6921	1.4448	1.4448		
193	770630	0.045360	1.045360	0.044361	4.969640	4.709918	0.7303	1.3693	1.3693		
194	770729	-0.016222	0.983778	-0.016355	5.541602	5.704877	0.7094	1.4096	1.4096		
195	770831	-0.021042	0.978958	-0.021267	5.399737	5.595258	0.6846	1.4607	1.4607		
196	770930	-0.002480	0.997520	-0.002483	5.805218	5.858556	0.6784	1.4741	1.4741		
197	771031	-0.043406	0.956594	-0.044376	4.484233	4.761231	0.6389	1.5651	1.5651		
198	771130	0.026966	1.026966	0.026609	5.592447	5.410274	0.6604	1.5142	1.5142		
199	771230	0.002847	1.002847	0.002843	5.846454	5.853482	0.6596	1.5160	1.5160		
200	780131	-0.061514	0.938486	-0.063487	3.565250	3.817687	0.6160	1.6233	1.6233		
201	780228	-0.024762	0.975238	-0.025074	5.274662	5.491962	0.5917	1.6902	1.6902		
202	780331	0.024931	1.024931	0.024625	5.640672	5.471485	0.6099	1.6395	1.6395		
203	780428	0.085416	1.085416	0.081963	2.986649	2.802857	0.6499	1.5386	1.5386		
204	780531	0.004234	1.004234	0.004225	5.851369	5.846293	0.6505	1.5373	1.5373		
205	780630	-0.017585	0.982415	-0.017741	5.503903	5.676721	0.6307	1.5855	1.5855		

Appendix 5
PDF S P 500

	A	B	C	D	E	F	G	H	I	J	K
206	780731	0.053910	1.053910	0.052507	4.589000	4.319829	0.6700	1.4925	1.4925		
207	780831	0.025924	1.025924	0.025594	5.617714	5.442094	0.6916	1.4459	1.4459		
208	780929	-0.007261	0.992739	-0.007287	5.738519	5.832317	0.6805	1.4695	1.4695		
209	781031	-0.091574	0.908426	-0.096042	2.084725	2.184279	0.6495	1.5397	1.5397		
210	781130	0.016640	1.016640	0.016503	5.787893	5.678739	0.6620	1.5106	1.5106		
211	781229	0.014889	1.014889	0.014779	5.808466	5.713215	0.6730	1.4859	1.4859		
212	790131	0.039746	1.039746	0.038976	5.191943	4.947749	0.7062	1.4160	1.4160		
213	790228	-0.036526	0.963474	-0.037210	4.802761	5.067939	0.6693	1.4942	1.4942		
214	790330	0.055152	1.055152	0.053685	4.530251	4.261096	0.7115	1.4054	1.4054		
215	790430	0.001673	1.001673	0.001672	5.840406	5.857684	0.7094	1.4096	1.4096		
216	790531	-0.026336	0.973664	-0.026689	5.217934	5.443549	0.6800	1.4705	1.4705		
217	790629	0.038656	1.038656	0.037928	5.232126	4.991804	0.7128	1.4030	1.4030		
218	790731	0.008746	1.008746	0.008708	5.850596	5.806482	0.7182	1.3924	1.3924		
219	790831	0.053078	1.053078	0.051717	4.627921	4.358931	0.7625	1.3115	1.3115		
220	790928	0.000000	1.000000	0.000000	5.828808	5.860669	0.7584	1.3186	1.3186		
221	791031	-0.068606	0.931394	-0.071073	3.196875	3.421405	0.7086	1.4112	1.4112		
222	791130	0.042624	1.042624	0.041741	5.081071	4.827988	0.7457	1.3409	1.3409		
223	791231	0.016767	1.016767	0.016628	5.786255	5.676107	0.7602	1.3154	1.3154		
224	800131	0.057625	1.057625	0.056026	4.411139	4.143018	0.8094	1.2355	1.2355		
225	800229	-0.004380	0.995620	-0.004390	5.782026	5.851630	0.7998	1.2503	1.2503		
226	800331	-0.101795	0.898205	-0.107357	1.661723	1.704823	0.7796	1.2828	1.2828		
227	800430	0.041140	1.041140	0.040316	5.139086	4.890344	0.8192	1.2207	1.2207		
228	800530	0.046571	1.046571	0.045519	4.918570	4.656474	0.8653	1.1556	1.1556		
229	800630	0.026969	1.026969	0.026612	5.592372	5.410181	0.8945	1.1180	1.1180		
230	800731	0.065039	1.065039	0.063011	4.040469	3.782984	0.9554	1.0467	1.0467		
231	800829	0.005835	1.005835	0.005818	5.854032	5.835024	0.9585	1.0433	1.0433		
232	800930	0.025168	1.025168	0.024857	5.635293	5.464554	0.9884	1.0117	1.0117		
233	801031	0.016021	1.016021	0.015894	5.795595	5.691315	1.0065	0.9935	1.0065		
234	801128	0.102377	1.102377	0.097469	2.169335	2.069781	1.0549	0.9479	1.0549		
235	801231	-0.033874	0.966126	-0.034461	4.918095	5.175457	1.0025	0.9975	1.0025		
236	810130	-0.045742	0.954258	-0.046821	4.370815	4.649050	0.9425	1.0610	1.0610		
237	810227	0.013277	1.013277	0.013190	5.824071	5.741917	0.9560	1.0461	1.0461		
238	810331	0.036033	1.036033	0.035399	5.324516	5.094637	0.9991	1.0009	1.0009		
239	810430	-0.023456	0.976544	-0.023735	5.320045	5.530031	0.9612	1.0404	1.0404		
240	810529	-0.001657	0.998343	-0.001658	5.813889	5.860126	0.9536	1.0487	1.0487		
241	810630	-0.010408	0.989592	-0.010463	5.679757	5.799109	0.9340	1.0707	1.0707		
242	810731	-0.002210	0.997790	-0.002212	5.808155	5.859166	0.9258	1.0801	1.0801		
243	810831	-0.062099	0.937901	-0.064111	3.534769	3.785228	0.8646	1.1567	1.1567		
244	810930	-0.053832	0.946168	-0.055335	3.963582	4.235629	0.8090	1.2360	1.2360		
245	811030	0.049148	1.049148	0.047978	4.806580	4.540578	0.8564	1.1676	1.1676		
246	811130	0.036590	1.036590	0.035936	5.305419	5.073190	0.8956	1.1165	1.1165		

Appendix 5
PDF S P 500

	A	B	C	D	E	F	G	H	I	J	K
247	811231	-0.030075	0.969925	-0.030537	5.074745	5.317826	0.8547	1.1700	1.1700		
248	820129	-0.017544	0.982456	-0.017700	5.505065	5.677601	0.8287	1.2067	1.2067		
249	820226	-0.060548	0.939452	-0.062459	3.615576	3.871139	0.7740	1.2920	1.2920		
250	820331	-0.010167	0.989833	-0.010219	5.684665	5.802098	0.7583	1.3187	1.3187		
251	820430	0.040014	1.040014	0.039234	5.181907	4.936804	0.7960	1.2563	1.2563		
252	820528	-0.039162	0.960838	-0.039949	4.683769	4.954924	0.7524	1.3290	1.3290		
253	820630	-0.020290	0.979710	-0.020499	5.423415	5.614190	0.7269	1.3758	1.3758		
254	820730	-0.022991	0.977009	-0.023259	5.335824	5.543118	0.6997	1.4292	1.4292		
255	820831	0.115977	1.115977	0.109730	1.605279	1.569583	0.7156	1.3974	1.3974		
256	820930	0.007614	1.007614	0.007585	5.853201	5.818805	0.7198	1.3892	1.3892		
257	821029	0.110364	1.110364	0.104688	1.826505	1.765640	0.7446	1.3429	1.3429		
258	821130	0.036123	1.036123	0.035486	5.321450	5.091186	0.7783	1.2848	1.2848		
259	821231	0.015158	1.015158	0.015044	5.805550	5.708141	0.7916	1.2633	1.2633		
260	830131	0.033134	1.033134	0.032597	5.419178	5.202646	0.8245	1.2128	1.2128		
261	830228	0.018995	1.018995	0.018817	5.754344	5.627095	0.8432	1.1860	1.1860		
262	830331	0.033095	1.033095	0.032559	5.420397	5.204057	0.8782	1.1386	1.1386		
263	830429	0.074922	1.074922	0.072248	3.528785	3.300519	0.9390	1.0650	1.0650		
264	830531	-0.012346	0.987654	-0.012423	5.637885	5.772405	0.9171	1.0904	1.0904		
265	830630	0.035224	1.035224	0.034618	5.351739	5.125396	0.9576	1.0443	1.0443		
266	830729	-0.033014	0.966986	-0.033571	4.954476	5.208920	0.9108	1.0979	1.0979		
267	830831	0.011319	1.011319	0.011255	5.838685	5.772773	0.9212	1.0855	1.0855		
268	830930	0.010158	1.010158	0.010107	5.845088	5.788956	0.9302	1.0751	1.0751		
269	831031	-0.015174	0.984826	-0.015290	5.569249	5.724975	0.9049	1.1051	1.1051		
270	831130	0.017426	1.017426	0.017276	5.777441	5.662167	0.9233	1.0831	1.0831		
271	831230	-0.008834	0.991166	-0.008873	5.710594	5.817295	0.9063	1.1033	1.1033		
272	840131	-0.009216	0.990784	-0.009259	5.703375	5.813171	0.8892	1.1246	1.1246		
273	840229	-0.038859	0.961141	-0.039634	4.697653	4.968212	0.8408	1.1893	1.1893		
274	840330	0.013498	1.013498	0.013408	5.822122	5.738157	0.8531	1.1722	1.1722		
275	840430	0.005466	1.005466	0.005451	5.853704	5.837902	0.8554	1.1690	1.1690		
276	840531	-0.059356	0.940644	-0.061191	3.677638	3.936809	0.7991	1.2514	1.2514		
277	840629	0.017469	1.017469	0.017318	5.776848	5.661241	0.8154	1.2264	1.2264		
278	840731	-0.016451	0.983549	-0.016588	5.535405	5.700305	0.7918	1.2629	1.2629		
279	840831	0.106332	1.106332	0.101050	1.995628	1.915563	0.8249	1.2122	1.2122		
280	840928	-0.003480	0.996520	-0.003486	5.793561	5.855486	0.8162	1.2252	1.2252		
281	841031	-0.000060	0.999940	-0.000060	5.828328	5.860710	0.8117	1.2320	1.2320		
282	841130	-0.015112	0.984888	-0.015227	5.570847	5.726122	0.7897	1.2663	1.2663		
283	841231	0.022374	1.022374	0.022127	5.694655	5.542832	0.8113	1.2326	1.2326		
284	850131	0.074085	1.074085	0.071469	3.572397	3.341097	0.8675	1.1528	1.1528		
285	850228	0.008685	1.008685	0.008648	5.850778	5.807185	0.8740	1.1442	1.1442		
286	850329	-0.002925	0.997075	-0.002929	5.800182	5.857348	0.8655	1.1555	1.1555		
287	850430	-0.004594	0.995406	-0.004605	5.779138	5.850560	0.8549	1.1697	1.1697		

	A	B	C	D	E	F	G	H	I	J	K
288	850531	0.054051	1.054051	0.052641	4.582369	4.313182	0.9082	1.1010	1.1010		
289	850628	0.012134	1.012134	0.012061	5.833182	5.760469	0.9197	1.0873	1.0873		
290	850731	-0.004848	0.995152	-0.004860	5.775638	5.849215	0.9081	1.1011	1.1011		
291	850830	-0.011995	0.988005	-0.012068	5.645784	5.777593	0.8874	1.1269	1.1269		
292	850930	-0.034724	0.965276	-0.035341	4.881636	5.141698	0.8425	1.1869	1.1869		
293	851031	0.042509	1.042509	0.041630	5.085629	4.832865	0.8866	1.1279	1.1279		
294	851129	0.065062	1.065062	0.063033	4.039295	3.781859	0.9470	1.0560	1.0560		
295	851231	0.045061	1.045061	0.044075	4.982088	4.723006	0.9989	1.0011	1.0011		
296	860131	0.002367	1.002367	0.002364	5.844190	5.855409	0.9970	1.0030	1.0030		
297	860228	0.071489	1.071489	0.069049	3.707558	3.467454	1.0660	0.9381	1.0660		
298	860331	0.052794	1.052794	0.051448	4.641123	4.372231	1.1316	0.8837	1.1316		
299	860430	-0.014148	0.985652	-0.014249	5.595167	5.743336	1.1024	0.9071	1.1024		
300	860530	0.050229	1.050229	0.049008	4.758338	4.491160	1.1680	0.8562	1.1680		
301	860630	0.014110	1.014110	0.014011	5.816408	5.727453	1.1861	0.8431	1.1861		
302	860731	-0.058683	0.941317	-0.060475	3.712645	3.973729	1.1082	0.9024	1.1082		
303	860829	0.071193	1.071193	0.068773	3.722947	3.481901	1.1849	0.8440	1.1849		
304	860930	-0.085439	0.914561	-0.089311	2.363055	2.498149	1.1208	0.8922	1.1208		
305	861031	0.054729	1.054729	0.053284	4.560345	4.281145	1.1913	0.8394	1.1913		
306	861128	0.021477	1.021477	0.021250	5.711809	5.566337	1.2224	0.8180	1.2224		
307	861231	-0.028288	0.971712	-0.028696	5.144615	5.379759	1.1690	0.8564	1.1690		
308	870130	0.131767	1.131767	0.123780	1.076505	1.098338	1.1458	0.8728	1.1458		
309	870227	0.036924	1.036924	0.036259	5.293830	5.060227	1.1987	0.8343	1.1987		
310	870331	0.026390	1.026390	0.026048	5.606562	5.427987	1.2381	0.8077	1.2381		
311	870430	-0.011450	0.988550	-0.011516	5.657774	5.785341	1.2108	0.8259	1.2108		
312	870529	0.006034	1.006034	0.006016	5.854137	5.833402	1.2151	0.8230	1.2151		
313	870630	0.047915	1.047915	0.046802	4.860708	4.596381	1.2850	0.7782	1.2850		
314	870731	0.048224	1.048224	0.047097	4.847235	4.582455	1.3592	0.7357	1.3592		
315	870831	0.034959	1.034959	0.034362	5.360523	5.135370	1.4188	0.7048	1.4188		
316	870930	-0.024166	0.975834	-0.024463	5.285566	5.509574	1.3637	0.7:33	1.3637		
317	871030	-0.217630	0.782370	-0.245428	0.026400	0.008879	4.0549	0.2466	4.0549		
318	871130	-0.085349	0.914651	-0.089213	2.367261	2.502875	3.8352	0.2607	3.8352		
319	871231	0.072861	1.072861	0.070329	3.636157	3.400588	4.1008	0.2439	4.1008		
320	880129	0.040432	1.040432	0.039636	5.166134	4.919645	4.3063	0.2322	4.3063		
321	880229	0.041817	1.041817	0.040966	5.112839	4.862052	4.5284	0.2208	4.5284		
322	880331	-0.033343	0.966657	-0.033912	4.940619	5.196201	4.3057	0.2323	4.3057		
323	880429	0.009425	1.009425	0.009381	5.848260	5.798351	4.3427	0.2303	4.3427		
324	880531	0.003176	1.003176	0.003171	5.847839	5.851994	4.3397	0.2304	4.3397		
325	880630	0.043256	1.043256	0.042347	5.058835	4.801061	4.5700	0.2188	4.5700		
326	880729	-0.005411	0.994589	-0.005426	5.767603	5.845939	4.5087	0.2218	4.5087		
327	880831	-0.038600	0.961400	-0.039365	4.709479	4.979511	4.2642	0.2345	4.2642		
328	880930	0.039729	1.039729	0.038960	5.192577	4.948442	4.4746	0.2235	4.4746		

Appendix 5
PDF S P 500

	A	B	C	D	E	F	G	H	I	J	K
329	881031	0.025964	1.025964	0.025633	5.616766	5.440891	4.6192	0.2165	4.6192		
330	881130	-0.018891	0.981109	-0.019072	5.465970	5.647627	4.4707	0.2237	4.4707		
331	881230	0.014688	1.014688	0.014581	5.810587	5.716955	4.5439	0.2201	4.5439		
332	890131	0.071115	1.071115	0.068700	3.727001	3.485708	4.8584	0.2058	4.8584		
333	890228	-0.028944	0.971056	-0.029371	5.119264	5.357410	4.6425	0.2154	4.6425		
334	890331	0.020806	1.020806	0.020593	5.724026	5.583388	4.7594	0.2101	4.7594		
335	890428	0.050090	1.050090	0.048876	4.764581	4.497539	5.0420	0.1983	5.0420		
336	890531	0.035138	1.035138	0.034535	5.354597	5.128639	5.2641	0.1900	5.2641		
337	890630	-0.007925	0.992075	-0.007957	5.727087	5.826361	5.1744	0.1933	5.1744		
338	890731	0.088370	1.088370	0.084681	2.837494	2.667809	5.5035	0.1817	5.5035		
339	890831	0.015517	1.015517	0.015398	5.801520	5.701242	5.6003	0.1786	5.6003		
340	890929	-0.006544	0.993456	-0.006566	5.750277	5.838116	5.5161	0.1813	5.5161		
341	891031	-0.025175	0.974825	-0.025497	5.259990	5.479524	5.2951	0.1889	5.2951		
342	891130	0.016541	1.016541	0.016406	5.789156	5.680779	5.3961	0.1853	5.3961		
343	891229	0.021417	1.021417	0.021191	5.712923	5.567880	5.5367	0.1806	5.5367		
344	900131	-0.068817	0.931183	-0.071299	3.185990	3.409571	5.1736	0.1933	5.1736		
345	900228	0.008539	1.008539	0.008503	5.851193	5.808851	5.2113	0.1919	5.2113		
346	900330	0.024255	1.024255	0.023966	5.655668	5.490961	5.3676	0.1863	5.3676		
347	900430	-0.026887	0.973113	-0.027255	5.197565	5.425959	5.1417	0.1945	5.1417		
348	900531	0.091989	1.091989	0.088001	2.658059	2.506209	5.4532	0.1834	5.4532		
349	900629	-0.008886	0.991114	-0.008926	5.709621	5.816745	5.3528	0.1868	5.3528		
350	900731	-0.005223	0.994777	-0.005237	5.770329	5.847078	5.2825	0.1893	5.2825		
351	900831	-0.094314	0.905686	-0.099063	1.966094	2.049996	5.0663	0.1974	5.0663		
352	900928	-0.051184	0.948816	-0.052540	4.098872	4.374681	4.7469	0.2107	4.7469		
353	901031	-0.006698	0.993302	-0.006721	5.747803	5.836926	4.6744	0.2139	4.6744		
354	901130	0.059934	1.059934	0.058207	4.297642	4.031659	4.9828	0.2007	4.9828		
355	901231	0.024828	1.024828	0.024525	5.642991	5.474480	5.1362	0.1947	5.1362		
356	910131	0.041518	1.041518	0.040679	5.124477	4.874580	5.3995	0.1852	5.3995		
357	910228	0.067281	1.067281	0.065114	3.925476	3.673249	5.7703	0.1733	5.7703		
358	910328	0.022203	1.022203	0.021960	5.697997	5.547375	5.9270	0.1687	5.9270		
359	910430	0.000346	1.000346	0.000346	5.831493	5.860342	5.8978	0.1696	5.8978		
360	910531	0.038577	1.038577	0.037852	5.234998	4.994968	6.1812	0.1618	6.1812		
361	910628	-0.047893	0.952107	-0.049078	4.264484	4.542635	5.8027	0.1723	5.8027		
362	910731	0.044859	1.044859	0.043882	4.990462	4.731823	6.1199	0.1634	6.1199		
363	910830	0.019649	1.019649	0.019458	5.743845	5.611705	6.2640	0.1596	6.2640		
364	910930	-0.019144	0.980856	-0.019330	5.458419	5.641753	6.0604	0.1650	6.0604		
365	911031	0.011860	1.011860	0.011790	5.835125	5.764692	6.1345	0.1630	6.1345		
366	911129	-0.043928	0.956072	-0.044922	4.459091	4.736487	5.7752	0.1732	5.7752		
367	911231	0.111588	1.111588	0.105790	1.776827	1.721620	5.9604	0.1678	5.9604		
368	920131	-0.019900	0.980100	-0.020101	5.435474	5.623746	5.7609	0.1736	5.7609		
369	920228	0.009565	1.009565	0.009520	5.847707	5.796606	5.8116	0.1721	5.8116		

	A	B	C	D	E	F	G	H	I	J	K
370	920331	-0.021832	0.978168	-0.022074	5.374269	5.574655	5.6027	0.1785	5.6027		5.6027
371	920430	0.027893	1.027893	0.027511	5.568969	5.381141	5.7983	0.1725	5.7983		5.7983
372	920529	0.000964	1.000964	0.000964	5.835918	5.859381	5.7751	0.1732	5.7751		5.7751
373	920630	-0.017359	0.982641	-0.017511	5.510289	5.681546	5.6010	0.1785	5.6010		5.6010
374	920731	0.039374	1.039374	0.038619	5.205772	4.962868	5.8751	0.1702	5.8751		5.8751
375	920831	-0.023998	0.976002	-0.024291	5.301400	5.514466	5.6481	0.1770	5.6481		5.6481
376	920930	0.009106	1.009106	0.009065	5.849430	5.802240	5.6941	0.1756	5.6941		5.6941
377	921030	0.002106	1.002106	0.002104	5.842838	5.856336	5.6810	0.1760	5.6810		5.6810
378	921130	0.030262	1.030262	0.029813	5.504787	5.303279	5.8968	0.1696	5.8968		5.8968
379	921231	0.010108	1.010108	0.010057	5.845326	5.789617	5.9536	0.1680	5.9536		5.9536
380	930129	0.007046	1.007046	0.007021	5.853900	5.824403	5.9837	0.1671	5.9837		5.9837
381	930226	0.010484	1.010484	0.010429	5.843461	5.784572	6.0446	0.1654	6.0446		6.0446
382	930331	0.018697	1.018697	0.018524	5.758959	5.633958	6.1787	0.1618	6.1787		6.1787
383	930430	-0.025417	0.974583	-0.025746	5.251321	5.472149	5.9294	0.1687	5.9294		5.9294
384	930528	0.022717	1.022717	0.022463	5.687849	5.533632	6.0946	0.1641	6.0946		6.0946
385	930630	0.000755	1.000755	0.000755	5.834475	5.859760	6.0683	0.1648	6.0683		6.0683
386	930730	-0.005327	0.994673	-0.005341	5.768826	5.846453	5.9878	0.1670	5.9878		5.9878
387	930831	0.034432	1.034432	0.033852	5.377791	5.155052	6.2465	0.1601	6.2465		6.2465
388	930930	-0.006988	0.990012	-0.010038	5.688266	5.804270	6.1216	0.1634	6.1216		6.1216
389	931029	0.019393	1.019393	0.019207	5.748015	5.617783	6.2636	0.1597	6.2636		6.2636
390	931130	-0.012911	0.987089	-0.012995	5.624879	5.763728	6.1127	0.1636	6.1127		6.1127
391	931231	0.010091	1.010091	0.010040	5.845406	5.789841	6.1713	0.1620	6.1713		6.1713
392	940131	0.032501	1.032501	0.031984	5.438762	5.225390	6.4233	0.1557	6.4233		6.4233
393	940228	-0.030045	0.969955	-0.030506	5.075939	5.318893	6.1299	0.1631	6.1299		6.1299
394	940331	-0.045746	0.954254	-0.046825	4.370619	4.648855	5.7630	0.1735	5.7630		5.7630
395	940429	0.011531	1.011531	0.011465	5.837333	5.769647	5.8307	0.1715	5.8307		5.8307
396	940531	0.012419	1.012419	0.012343	5.831063	5.755985	5.9067	0.1693	5.9067		5.9067
397	940630	-0.026812	0.973188	-0.027178	5.200352	5.428373	5.6586	0.1767	5.6586		5.6586
398	940729	0.031467	1.031467	0.030982	5.469888	5.261863	5.8823	0.1700	5.8823		5.8823
399	940831	0.037643	1.037643	0.036952	5.268540	5.032065	6.1587	0.1624	6.1587		6.1587
400	940930	-0.026898	0.973102	-0.027266	5.197155	5.425604	5.8994	0.1695	5.8994		5.8994
401	941031	0.020834	1.020834	0.020620	5.723527	5.582886	6.0482	0.1653	6.0482		6.0482
402	941130	-0.039505	0.960495	-0.040307	4.667990	4.939790	5.7155	0.1750	5.7155		5.7155
403	941230	0.012299	1.012299	0.012224	5.831967	5.757884	5.7890	0.1727	5.7890		5.7890
404	950131	0.024278	1.024278	0.023998	5.655167	5.490305	5.9628	0.1677	5.9628		5.9628
405	950228	0.036074	1.036074	0.035439	5.323120	5.093065	6.2322	0.1605	6.2322		6.2322
406	950331	0.027329	1.027329	0.026962	5.583364	5.398958	6.4450	0.1552	6.4450		6.4450
407	950428	0.027960	1.027960	0.027576	5.567236	5.379006	6.6706	0.1499	6.6706		6.6706
408	950531	0.036312	1.036312	0.035668	5.314986	5.083921	6.9737	0.1434	6.9737		6.9737
409	950630	0.021279	1.021279	0.021056	5.715469	5.571416	7.1541	0.1398	7.1541		7.1541
410	950731	0.031776	1.031776	0.031282	5.460699	5.251053	7.4397	0.1344	7.4397		7.4397

	A	B	C	D	E	F	G	H	I	J	K
411	950831	-0.000320	0.999680	-0.000320	5.826193	5.860836	7.3957	0.1352	7.3957		
412	950928	0.040098	1.040098	0.039315	5.178749	4.933364	7.7636	0.1288	7.7636		
413	951031	-0.004979	0.995021	-0.004991	5.773803	5.848489	7.6644	0.1305	7.6644		
414	951130	0.041049	1.041049	0.040229	5.142586	4.894127	8.0535	0.1242	8.0535		
415	951229	0.017444	1.017444	0.017294	5.777193	5.661779	8.2177	0.1217	8.2177		
416	960131	0.032617	1.032617	0.032096	5.435203	5.221245	8.5544	0.1169	8.5544		
417	960229	0.006934	1.006934	0.006910	5.853990	5.825460	8.5963	0.1163	8.5963		
418	960329	0.007917	1.007917	0.007886	5.852662	5.815658	8.6510	0.1156	8.6510		
419	960430	0.013431	1.013431	0.013342	5.822719	5.739303	8.7768	0.1139	8.7768		
420	960531	0.022853	1.022853	0.022596	5.685113	5.529951	9.0230	0.1108	9.0230		
421	960628	0.002257	1.002257	0.002254	5.843631	5.855810	9.0043	0.1111	9.0043		
422	960731	-0.045748	0.954252	-0.046827	4.370521	4.648758	8.4653	0.1181	8.4653		
423	960830	0.018814	1.018814	0.018639	5.757160	5.631275	8.6546	0.1155	8.6546		
424	960930	0.054203	1.054203	0.052785	4.575209	4.306011	9.1956	0.1087	9.1956		
425	961031	0.026101	1.026101	0.025768	5.613507	5.436759	9.4946	0.1053	9.4946		
426	961129	0.073376	1.073376	0.070809	3.609334	3.375537	10.1522	0.0985	10.1522		
427	961231	-0.021505	0.978495	-0.021740	5.384884	5.583272	9.7915	0.1021	9.7915		
428	970131	0.061317	1.061317	0.059511	4.228740	3.964558	10.4439	0.0957	10.4439		
429	970228	0.005928	1.005928	0.005910	5.854087	5.834272	10.4794	0.0954	10.4794		
430	970331	-0.042614	0.957386	-0.043549	4.522144	4.798406	9.8761	0.1013	9.8761		
431	970430	0.058406	1.058406	0.056764	4.372980	4.105458	10.5196	0.0951	10.5196		
432	970530	0.058577	1.058577	0.056926	4.364592	4.097219	11.2061	0.0892	11.2061		
433	970630	0.043453	1.043453	0.042535	5.047906	4.792624	11.8030	0.0847	11.8030		
434	970731	0.078146	1.078146	0.075243	3.360978	3.145199	12.6127	0.0793	12.6127		
435	970829	-0.057466	0.942534	-0.059183	3.775863	4.040170	11.7876	0.0848	11.7876		
436	970930	0.053154	1.053154	0.051789	4.624381	4.355368	12.5157	0.0799	12.5157		
437	971031	-0.034478	0.965522	-0.035086	4.892238	5.151537	11.8857	0.0841	11.8857		
438	971128	0.044587	1.044587	0.043622	5.001690	4.743664	12.5322	0.0798	12.5322		
439	971231	0.015732	1.015732	0.015610	5.799030	5.697041	12.7566	0.0784	12.7566		

Appendix 6
Constant Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
1	Date	3 Month		Value Weighted		
2	(Month-Year)	T-Bill Rate	d	Returns		Constant Prob
3						
4	Jan-34	0.72	0.000598029	0.129657	1	0.643229167
5	Feb-34	0.62	0.000515204	-0.023533	0	
6	Mar-34	0.24	0.000199780	0.004781	1	
7	Apr-34	0.15	0.000124914	-0.017990	0	
8	May-34	0.16	0.000133236	-0.070662	0	
9	Jun-34	0.15	0.000124914	0.025310	1	
10	Jul-34	0.15	0.000124914	-0.108466	0	
11	Aug-34	0.19	0.000158196	0.059468	1	
12	Sep-34	0.21	0.000174832	-0.002957	0	
13	Oct-34	0.27	0.000224722	-0.019245	0	
14	Nov-34	0.25	0.000208095	0.084419	1	
15	Dec-34	0.23	0.000191465	0.004037	1	
16	Jan-35	0.20	0.000166514	-0.031839	0	
17	Feb-35	0.19	0.000158196	-0.019409	0	
18	Mar-35	0.15	0.000124914	-0.037016	0	
19	Apr-35	0.15	0.000124914	0.089403	1	
20	May-35	0.15	0.000124914	0.034776	1	
21	Jun-35	0.15	0.000124914	0.055065	1	
22	Jul-35	0.15	0.000124914	0.073148	1	
23	Aug-35	0.16	0.000133236	0.027451	1	
24	Sep-35	0.20	0.000166514	0.023790	1	
25	Oct-35	0.20	0.000166514	0.069926	1	
26	Nov-35	0.16	0.000133236	0.051928	1	
27	Dec-35	0.15	0.000124914	0.045614	1	
28	Jan-36	0.20	0.000166514	0.065814	1	
29	Feb-36	0.20	0.000166514	0.025957	1	
30	Mar-36	0.20	0.000166514	0.008470	1	
31	Apr-36	0.20	0.000166514	-0.078200	0	
32	May-36	0.20	0.000166514	0.050488	1	
33	Jun-36	0.20	0.000166514	0.025948	1	
34	Jul-36	0.15	0.000124914	0.063287	1	
35	Aug-36	0.20	0.000166514	0.011155	1	
36	Sep-36	0.16	0.000133236	0.014725	1	
37	Oct-36	0.13	0.000108269	0.069674	1	
38	Nov-36	0.11	0.000091620	0.034182	1	
39	Dec-36	0.12	0.000099945	0.001195	1	
40	Jan-37	0.17	0.000141556	0.032489	1	
41	Feb-37	0.15	0.000124914	0.013250	1	
42	Mar-37	0.38	0.000316116	-0.004573	0	
43	Apr-37	0.56	0.000465473	-0.074617	0	
44	May-37	0.41	0.000341026	-0.008410	0	
45	Jun-37	0.36	0.000299506	-0.040592	0	
46	Jul-37	0.28	0.000233034	0.084348	1	
47	Aug-37	0.29	0.000241346	-0.045229	0	
48	Sep-37	0.31	0.000257967	-0.134840	0	
49	Oct-37	0.20	0.000166514	-0.094845	0	
50	Nov-37	0.09	0.000074969	-0.082975	0	
51	Dec-37	0.11	0.000091620	-0.040771	0	
52	Jan-38	0.10	0.000083295	0.008260	1	
53	Feb-38	0.08	0.000066642	0.057480	1	
54	Mar-38	0.08	0.000066642	-0.236216	0	
55	Apr-38	0.09	0.000074969	0.145390	1	
56	May-38	0.05	0.000041657	-0.038843	0	

Appendix 6
Constant Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
57	Jun-38	0.05	0.000041657	0.235427	1	
58	Jul-38	0.07	0.000058315	0.071722	1	
59	Aug-38	0.06	0.000049986	-0.026933	0	
60	Sep-38	0.08	0.000066642	0.008828	1	
61	Oct-38	0.05	0.000041657	0.077175	1	
62	Nov-38	0.04	0.000033327	-0.018170	0	
63	Dec-38	0.03	0.000024997	0.040450	1	
64	Jan-39	0.03	0.000024997	-0.059668	0	
65	Feb-39	0.03	0.000024997	0.034562	1	
66	Mar-39	0.03	0.000024997	-0.118963	0	
67	Apr-39	0.03	0.000024997	-0.002590	0	
68	May-39	0.03	0.000024997	0.068617	1	
69	Jun-39	0.03	0.000024997	-0.052998	0	
70	Jul-39	0.04	0.000033327	0.101109	1	
71	Aug-39	0.05	0.000041657	-0.066033	0	
72	Sep-39	0.14	0.000116592	0.159534	1	
73	Oct-39	0.05	0.000041657	-0.004183	0	
74	Nov-39	0.05	0.000041657	-0.036321	0	
75	Dec-39	0.04	0.000033327	0.030300	1	
76	Jan-40	0.01	0.000008333	-0.024814	0	
77	Feb-40	0.02	0.000016665	0.014319	1	
78	Mar-40	0.02	0.000016665	0.019001	1	
79	Apr-40	0.02	0.000016665	0.001294	1	
80	May-40	0.06	0.000049986	-0.220243	0	
81	Jun-40	0.10	0.000083295	0.066620	1	
82	Jul-40	0.05	0.000041657	0.032315	1	
83	Aug-40	0.04	0.000033327	0.023404	1	
84	Sep-40	0.05	0.000041657	0.023219	1	
85	Oct-40	0.02	0.000016665	0.029546	1	
86	Nov-40	0.02	0.000016665	-0.016565	0	
87	Dec-40	0.02	0.000016665	0.007065	1	
88	Jan-41	0.02	0.000016665	-0.040354	0	
89	Feb-41	0.04	0.000033327	-0.015118	0	
90	Mar-41	0.11	0.000091620	0.009870	1	
91	Apr-41	0.10	0.000083295	-0.053011	0	
92	May-41	0.11	0.000091620	0.014334	1	
93	Jun-41	0.12	0.000099945	0.058186	1	
94	Jul-41	0.12	0.000099945	0.058581	1	
95	Aug-41	0.13	0.000108269	0.000826	1	
96	Sep-41	0.10	0.000083295	-0.007459	0	
97	Oct-41	0.09	0.000074969	-0.051514	0	
98	Nov-41	0.28	0.000233034	-0.019338	0	
99	Dec-41	0.33	0.000274585	-0.046332	0	
100	Jan-42	0.27	0.000224722	0.005752	1	
101	Feb-42	0.25	0.000208095	-0.022771	0	
102	Mar-42	0.25	0.000208095	-0.065788	0	
103	Apr-42	0.32	0.000266276	-0.043131	0	
104	May-42	0.37	0.000307812	0.061413	1	
105	Jun-42	0.37	0.000307812	0.025228	1	
106	Jul-42	0.38	0.000316116	0.034788	1	
107	Aug-42	0.38	0.000316116	0.018767	1	
108	Sep-42	0.38	0.000316116	0.026204	1	
109	Oct-42	0.38	0.000316116	0.067833	1	
110	Nov-42	0.38	0.000316116	0.001819	1	
111	Dec-42	0.38	0.000316116	0.049310	1	
112	Jan-43	0.38	0.000316116	0.075026	1	

Appendix 6
Constant Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
113	Feb-43	0.38	0.000316116	0.059913	1	
114	Mar-43	0.38	0.000316116	0.061395	1	
115	Apr-43	0.38	0.000316116	0.006698	1	
116	May-43	0.38	0.000316116	0.056962	1	
117	Jun-43	0.38	0.000316116	0.016784	1	
118	Jul-43	0.38	0.000316116	-0.046023	0	
119	Aug-43	0.38	0.000316116	0.012894	1	
120	Sep-43	0.38	0.000316116	0.024130	1	
121	Oct-43	0.38	0.000316116	-0.012327	0	
122	Nov-43	0.38	0.000316116	-0.058127	0	
123	Dec-43	0.38	0.000316116	0.063087	1	
124	Jan-44	0.38	0.000316116	0.018126	1	
125	Feb-44	0.38	0.000316116	0.004166	1	
126	Mar-44	0.38	0.000316116	0.024130	1	
127	Apr-44	0.38	0.000316116	-0.017288	0	
128	May-44	0.38	0.000316116	0.051940	1	
129	Jun-44	0.38	0.000316116	0.056672	1	
130	Jul-44	0.38	0.000316116	-0.015014	0	
131	Aug-44	0.38	0.000316116	0.015220	1	
132	Sep-44	0.38	0.000316116	0.000314	0	
133	Oct-44	0.38	0.000316116	0.002778	1	
134	Nov-44	0.38	0.000316116	0.015399	1	
135	Dec-44	0.38	0.000316116	0.042124	1	
136	Jan-45	0.38	0.000316116	0.018266	1	
137	Feb-45	0.38	0.000316116	0.065229	1	
138	Mar-45	0.38	0.000316116	-0.038993	0	
139	Apr-45	0.38	0.000316116	0.077808	1	
140	May-45	0.38	0.000316116	0.018436	1	
141	Jun-45	0.38	0.000316116	0.003882	1	
142	Jul-45	0.38	0.000316116	-0.022247	0	
143	Aug-45	0.38	0.000316116	0.060615	1	
144	Sep-45	0.38	0.000316116	0.047955	1	
145	Oct-45	0.38	0.000316116	0.039148	1	
146	Nov-45	0.38	0.000316116	0.054569	1	
147	Dec-45	0.38	0.000316116	0.011363	1	
148	Jan-46	0.38	0.000316116	0.061834	1	
149	Feb-46	0.38	0.000316116	-0.057580	0	
150	Mar-46	0.38	0.000316116	0.059506	1	
151	Apr-46	0.38	0.000316116	0.040609	1	
152	May-46	0.38	0.000316116	0.041604	1	
153	Jun-46	0.38	0.000316116	-0.039062	0	
154	Jul-46	0.38	0.000316116	-0.025828	0	
155	Aug-46	0.38	0.000316116	-0.064133	0	
156	Sep-46	0.38	0.000316116	-0.100862	0	
157	Oct-46	0.38	0.000316116	-0.014064	0	
158	Nov-46	0.38	0.000316116	0.002492	1	
159	Dec-46	0.38	0.000316116	0.050590	1	
160	Jan-47	0.38	0.000316116	0.015135	1	
161	Feb-47	0.38	0.000316116	-0.011755	0	
162	Mar-47	0.38	0.000316116	-0.016868	0	
163	Apr-47	0.38	0.000316116	-0.047786	0	
164	May-47	0.38	0.000316116	-0.010132	0	
165	Jun-47	0.38	0.000316116	0.053645	1	
166	Jul-47	0.66	0.000548343	0.041413	1	
167	Aug-47	0.75	0.000622862	-0.017547	0	
168	Sep-47	0.80	0.000664235	-0.004474	0	

Appendix 6
Constant Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
169	Oct-47	0.85	0.000705589	0.024661	1	
170	Nov-47	0.92	0.000763453	-0.018095	0	
171	Dec-47	0.95	0.000788240	0.029869	1	
172	Jan-48	0.97	0.000804762	-0.037019	0	
173	Feb-48	1.00	0.000829538	-0.043558	0	
174	Mar-48	1.00	0.000829538	0.082635	1	
175	Apr-48	1.00	0.000829538	0.037713	1	
176	May-48	1.00	0.000829538	0.074452	1	
177	Jun-48	1.00	0.000829538	0.000000	0	
178	Jul-48	1.00	0.000829538	-0.050405	0	
179	Aug-48	1.06	0.000879071	0.003858	1	
180	Sep-48	1.09	0.000903827	-0.029410	0	
181	Oct-48	1.12	0.000928576	0.059755	1	
182	Nov-48	1.14	0.000945072	-0.090552	0	
183	Dec-48	1.16	0.000961565	0.032116	1	
184	Jan-49	1.17	0.000969810	0.002959	1	
185	Feb-49	1.17	0.000969810	-0.028716	0	
186	Mar-49	1.17	0.000969810	0.040833	1	
187	Apr-49	1.17	0.000969810	-0.018052	0	
188	May-49	1.17	0.000969810	-0.027347	0	
189	Jun-49	1.17	0.000969810	0.003438	1	
190	Jul-49	1.02	0.000846052	0.055466	1	
191	Aug-49	1.04	0.000862563	0.026510	1	
192	Sep-49	1.07	0.000887323	0.032073	1	
193	Oct-49	1.05	0.000870817	0.031556	1	
194	Nov-49	1.08	0.000895575	0.019216	1	
195	Dec-49	1.10	0.000912077	0.052606	1	
196	Jan-50	1.07	0.000887323	0.016316	1	
197	Feb-50	1.12	0.000928576	0.014517	1	
198	Mar-50	1.12	0.000928576	0.012156	1	
199	Apr-50	1.15	0.000953319	0.040147	1	
200	May-50	1.16	0.000961565	0.042938	1	
201	Jun-50	1.15	0.000953319	-0.056538	0	
202	Jul-50	1.16	0.000961565	0.015950	1	
203	Aug-50	1.20	0.000994542	0.050350	1	
204	Sep-50	1.30	0.001076932	0.048811	1	
205	Oct-50	1.31	0.001085166	-0.001401	0	
206	Nov-50	1.36	0.001126330	0.029023	1	
207	Dec-50	1.34	0.001109867	0.057189	1	
208	Jan-51	1.34	0.001109867	0.057915	1	
209	Feb-51	1.36	0.001126330	0.015151	1	
210	Mar-51	1.40	0.001159247	-0.021026	0	
211	Apr-51	1.47	0.001216823	0.049745	1	
212	May-51	1.55	0.001282580	-0.022567	0	
213	Jun-51	1.45	0.001200377	-0.025210	0	
214	Jul-51	1.56	0.001290797	0.070916	1	
215	Aug-51	1.62	0.001340079	0.045071	1	
216	Sep-51	1.63	0.001348290	0.008989	1	
217	Oct-51	1.54	0.001274363	-0.022363	0	
218	Nov-51	1.56	0.001290797	0.006005	1	
219	Dec-51	1.73	0.001430360	0.034946	1	
220	Jan-52	1.57	0.001299012	0.017031	1	
221	Feb-52	1.54	0.001274363	-0.024816	0	
222	Mar-52	1.59	0.001315441	0.045415	1	
223	Apr-52	1.57	0.001299012	-0.048719	0	
224	May-52	1.67	0.001381127	0.032570	1	

Appendix 6
Constant Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
225	Jun-52	1.70	0.001405747	0.039376	1	
226	Jul-52	1.81	0.001495963	0.011904	1	
227	Aug-52	1.83	0.001512357	-0.006970	0	
228	Sep-52	1.71	0.001413952	-0.019220	0	
229	Oct-52	1.74	0.001438563	-0.005267	0	
230	Nov-52	1.85	0.001528747	0.058960	1	
231	Dec-52	2.09	0.001725202	0.031256	1	
232	Jan-53	1.96	0.001618842	-0.001666	0	
233	Feb-53	1.97	0.001627028	-0.001633	0	
234	Mar-53	2.01	0.001659764	-0.013344	0	
235	Apr-53	2.19	0.001806934	-0.027384	0	
236	May-53	2.16	0.001782422	0.006736	1	
237	Jun-53	2.11	0.001741555	-0.016281	0	
238	Jul-53	2.04	0.001684309	0.025195	1	
239	Aug-53	2.04	0.001684309	-0.043995	0	
240	Sep-53	1.79	0.001479567	0.003065	1	
241	Oct-53	1.38	0.001142790	0.047035	1	
242	Nov-53	1.44	0.001192152	0.028259	1	
243	Dec-53	1.60	0.001323654	0.000668	0	
244	Jan-54	1.18	0.000978055	0.050581	1	
245	Feb-54	0.97	0.000804762	0.019202	1	
246	Mar-54	1.03	0.000854308	0.037774	1	
247	Apr-54	0.97	0.000804762	0.042626	1	
248	May-54	0.76	0.000631138	0.031362	1	
249	Jun-54	0.64	0.000531775	0.011370	1	
250	Jul-54	0.72	0.000598029	0.050421	1	
251	Aug-54	0.92	0.000763453	-0.022528	0	
252	Sep-54	1.01	0.000837795	0.064310	1	
253	Oct-54	0.98	0.000813021	-0.016237	0	
254	Nov-54	0.93	0.000771716	0.095950	1	
255	Dec-54	1.15	0.000953319	0.055287	1	
256	Jan-55	1.22	0.001011026	0.007071	1	
257	Feb-55	1.17	0.000969810	0.031377	1	
258	Mar-55	1.28	0.001060460	-0.001187	0	
259	Apr-55	1.59	0.001315441	0.032271	1	
260	May-55	1.45	0.001200377	0.011918	1	
261	Jun-55	1.41	0.001167474	0.065856	1	
262	Jul-55	1.60	0.001323654	0.020050	1	
263	Aug-55	1.90	0.001569710	0.004367	1	
264	Sep-55	2.07	0.001708847	-0.002247	0	
265	Oct-55	2.23	0.001839606	-0.025694	0	
266	Nov-55	2.24	0.001847772	0.071576	1	
267	Dec-55	2.54	0.002092418	0.016534	1	
268	Jan-56	2.41	0.001986485	-0.028041	0	
269	Feb-56	2.32	0.001913075	0.039581	1	
270	Mar-56	2.25	0.001855938	0.068140	1	
271	Apr-56	2.60	0.002141268	0.005029	1	
272	May-56	2.61	0.002149407	-0.049621	0	
273	Jun-56	2.49	0.002051689	0.037353	1	
274	Jul-56	2.31	0.001904915	0.051023	1	
275	Aug-56	2.60	0.002141268	-0.028948	0	
276	Sep-56	2.84	0.002336408	-0.049928	0	
277	Oct-56	2.90	0.002385128	0.007153	1	
278	Nov-56	2.99	0.002458159	0.007393	1	
279	Dec-56	3.21	0.002636433	0.030407	1	
280	Jan-57	3.11	0.002555442	-0.031261	0	

Appendix 6
Constant Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
281	Feb-57	3.10	0.002547339	-0.018445	0	
282	Mar-57	3.08	0.002531131	0.023694	1	
283	Apr-57	3.07	0.002523026	0.044984	1	
284	May-57	3.06	0.002514920	0.035899	1	
285	Jun-57	3.29	0.002701173	-0.005829	0	
286	Jul-57	3.16	0.002595947	0.009607	1	
287	Aug-57	3.37	0.002765868	-0.049625	0	
288	Sep-57	3.53	0.002895119	-0.057748	0	
289	Oct-57	3.58	0.002935473	-0.041456	0	
290	Nov-57	3.31	0.002717351	0.024297	1	
291	Dec-57	3.04	0.002498706	-0.037999	0	
292	Jan-58	2.44	0.002010942	0.050093	1	
293	Feb-58	1.53	0.001266145	-0.013997	0	
294	Mar-58	1.30	0.001076932	0.033490	1	
295	Apr-58	1.13	0.000936825	0.030427	1	
296	May-58	0.91	0.000755189	0.024628	1	
297	Jun-58	0.83	0.000689049	0.029478	1	
298	Jul-58	0.91	0.000755189	0.045035	1	
299	Aug-58	1.69	0.001397541	0.018718	1	
300	Sep-58	2.44	0.002010942	0.049300	1	
301	Oct-58	2.63	0.002165684	0.026994	1	
302	Nov-58	2.67	0.002198227	0.030391	1	
303	Dec-58	2.77	0.002279536	0.053243	1	
304	Jan-59	2.82	0.002320162	0.009579	1	
305	Feb-59	2.70	0.002222627	0.011203	1	
306	Mar-59	2.80	0.002303914	0.004896	1	
307	Apr-59	2.95	0.002425708	0.039156	1	
308	May-59	2.84	0.002336408	0.020046	1	
309	Jun-59	3.21	0.002636433	0.001206	0	
310	Jul-59	3.20	0.002628337	0.034271	1	
311	Aug-59	3.38	0.002773951	-0.011601	0	
312	Sep-59	4.04	0.003305890	-0.044757	0	
313	Oct-59	4.05	0.003313926	0.015253	1	
314	Nov-59	4.15	0.003394246	0.018226	1	
315	Dec-59	4.49	0.003666805	0.029019	1	
316	Jan-60	4.35	0.003554674	-0.067264	0	
317	Feb-60	3.96	0.003241578	0.012459	1	
318	Mar-60	3.31	0.002717351	-0.012115	0	
319	Apr-60	3.23	0.002652622	-0.015449	0	
320	May-60	3.29	0.002701173	0.033281	1	
321	Jun-60	2.46	0.002027243	0.023131	1	
322	Jul-60	2.30	0.001896754	-0.020766	0	
323	Aug-60	2.30	0.001896754	0.030049	1	
324	Sep-60	2.48	0.002043541	-0.058107	0	
325	Oct-60	2.30	0.001896754	-0.004575	0	
326	Nov-60	2.37	0.001953866	0.047922	1	
327	Dec-60	2.25	0.001855938	0.048077	1	
328	Jan-61	2.24	0.001847772	0.064465	1	
329	Feb-61	2.42	0.001994638	0.037091	1	
330	Mar-61	2.39	0.001970177	0.030962	1	
331	Apr-61	2.29	0.001888592	0.005852	1	
332	May-61	2.29	0.001888592	0.025904	1	
333	Jun-61	2.33	0.001921235	-0.028474	0	
334	Jul-61	2.24	0.001847772	0.030708	1	
335	Aug-61	2.39	0.001970177	0.027137	1	
336	Sep-61	2.28	0.001880429	-0.018754	0	

Appendix 6
Constant Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
337	Oct-61	2.30	0.001896754	0.027114		1
338	Nov-61	2.48	0.002043541	0.046075		1
339	Dec-61	2.60	0.002141268	0.000667		0
340	Jan-62	2.72	0.002238890	-0.036341		0
341	Feb-62	2.73	0.002247021	0.019038		1
342	Mar-62	2.72	0.002238890	-0.005640		0
343	Apr-62	2.73	0.002247021	-0.062734		0
344	May-62	2.69	0.002214495	-0.084534		0
345	Jun-62	2.73	0.002247021	-0.082724		0
346	Jul-62	2.92	0.002401362	0.066076		1
347	Aug-62	2.82	0.002320162	0.023381		1
348	Sep-62	2.78	0.002287662	-0.050120		0
349	Oct-62	2.74	0.002255151	0.002122		0
350	Nov-62	2.83	0.002328286	0.110113		1
351	Dec-62	2.87	0.002360771	0.011852		1
352	Jan-63	2.91	0.002393245	0.051843		1
353	Feb-63	2.92	0.002401362	-0.021927		0
354	Mar-63	2.89	0.002377010	0.032926		1
355	Apr-63	2.90	0.002385128	0.047437		1
356	May-63	2.93	0.002409478	0.020033		1
357	Jun-63	2.99	0.002458159	-0.018028		0
358	Jul-63	3.18	0.002612143	-0.001699		0
359	Aug-63	3.32	0.002725439	0.052685		1
360	Sep-63	3.38	0.002773951	-0.011904		0
361	Oct-63	3.45	0.002830517	0.027730		1
362	Nov-63	3.52	0.002887047	-0.005551		0
363	Dec-63	3.52	0.002887047	0.021737		1
364	Jan-64	3.52	0.002887047	0.025795		1
365	Feb-64	3.53	0.002895119	0.017170		1
366	Mar-64	3.54	0.002903192	0.017651		1
367	Apr-64	3.47	0.002846672	0.004622		1
368	May-64	3.48	0.002854748	0.017412		1
369	Jun-64	3.48	0.002854748	0.015080		1
370	Jul-64	3.46	0.002838594	0.020128		1
371	Aug-64	3.50	0.002870899	-0.011268		0
372	Sep-64	3.53	0.002895119	0.030462		1
373	Oct-64	3.57	0.002927404	0.008859		1
374	Nov-64	3.64	0.002983874	0.003090		1
375	Dec-64	3.84	0.003145024	0.003714		1
376	Jan-65	3.81	0.003120870	0.038648		1
377	Feb-65	3.93	0.003217449	0.006951		1
378	Mar-65	3.93	0.003217449	-0.009732		0
379	Apr-65	3.93	0.003217449	0.033639		1
380	May-65	3.89	0.003185267	-0.004347		0
381	Jun-65	3.80	0.003112817	-0.051859		0
382	Jul-65	3.84	0.003145024	0.016723		1
383	Aug-65	3.84	0.003145024	0.030879		1
384	Sep-65	3.92	0.003209405	0.031935		1
385	Oct-65	4.03	0.003297854	0.029282		1
386	Nov-65	4.09	0.003346063	0.003047		0
387	Dec-65	4.38	0.003578713	0.013540		1

Appendix 7
Moving Probability (Value Weighted Returns > T-bills)

1	A	B	C	D	E	F
2	Date	3 Month		Value Weighted		Moving
3	(Month-Year)	T-Bill Rate	d	Returns		Probability
4	Jan-34	0.72	0.000598029	0.129657	1	
5	Feb-34	0.62	0.000515204	-0.023533	0	
6	Mar-34	0.24	0.000199780	0.004781	1	
7	Apr-34	0.15	0.000124914	-0.017990	0	
8	May-34	0.16	0.000133236	-0.070662	0	
9	Jun-34	0.15	0.000124914	0.025310	1	
10	Jul-34	0.15	0.000124914	-0.108466	0	
11	Aug-34	0.19	0.000158196	0.059468	1	
12	Sep-34	0.21	0.000174832	-0.002957	0	
13	Oct-34	0.27	0.000224722	-0.019245	0	
14	Nov-34	0.25	0.000208095	0.084419	1	
15	Dec-34	0.23	0.000191465	0.004037	1	
16	Jan-35	0.20	0.000166514	-0.031839	0	
17	Feb-35	0.19	0.000158196	-0.019409	0	
18	Mar-35	0.15	0.000124914	-0.037016	0	
19	Apr-35	0.15	0.000124914	0.089403	1	
20	May-35	0.15	0.000124914	0.034776	1	
21	Jun-35	0.15	0.000124914	0.055065	1	
22	Jul-35	0.15	0.000124914	0.073148	1	
23	Aug-35	0.16	0.000133236	0.027451	1	
24	Sep-35	0.20	0.000166514	0.023790	1	
25	Oct-35	0.20	0.000166514	0.069926	1	
26	Nov-35	0.16	0.000133236	0.051928	1	
27	Dec-35	0.15	0.000124914	0.045614	1	
28	Jan-36	0.20	0.000166514	0.065814	1	
29	Feb-36	0.20	0.000166514	0.025957	1	
30	Mar-36	0.20	0.000166514	0.008470	1	
31	Apr-36	0.20	0.000166514	-0.078200	0	
32	May-36	0.20	0.000166514	0.050488	1	
33	Jun-36	0.20	0.000166514	0.025948	1	
34	Jul-36	0.15	0.000124914	0.063287	1	
35	Aug-36	0.20	0.000166514	0.011155	1	
36	Sep-36	0.16	0.000133236	0.014725	1	
37	Oct-36	0.13	0.000108269	0.069674	1	
38	Nov-36	0.11	0.000091620	0.034182	1	
39	Dec-36	0.12	0.000099945	0.001195	1	
40	Jan-37	0.17	0.000141556	0.032489	1	
41	Feb-37	0.15	0.000124914	0.013250	1	
42	Mar-37	0.38	0.000316116	-0.004573	0	
43	Apr-37	0.56	0.000465473	-0.074617	0	
44	May-37	0.41	0.000341026	-0.008410	0	
45	Jun-37	0.36	0.000299506	-0.040592	0	
46	Jul-37	0.28	0.000233034	0.084348	1	
47	Aug-37	0.29	0.000241346	-0.045229	0	
48	Sep-37	0.31	0.000257967	-0.134840	0	
49	Oct-37	0.20	0.000166514	-0.094845	0	
50	Nov-37	0.09	0.000074969	-0.082975	0	
51	Dec-37	0.11	0.000091620	-0.040771	0	
52	Jan-38	0.10	0.000083295	0.008260	1	
53	Feb-38	0.08	0.000066642	0.057480	1	
54	Mar-38	0.08	0.000066642	-0.236216	0	
55	Apr-38	0.09	0.000074969	0.145390	1	
56	May-38	0.05	0.000041657	-0.038843	0	
57	Jun-38	0.05	0.000041657	0.235427	1	
58	Jul-38	0.07	0.000058315	0.071722	1	
59	Aug-38	0.06	0.000049986	-0.026933	0	
60	Sep-38	0.08	0.000066642	0.008828	1	

Appendix 7
Moving Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
61	Oct-38	0.05	0.000041657	0.077175	1	
62	Nov-38	0.04	0.000033327	-0.018170	0	
63	Dec-38	0.03	0.000024997	0.040450	1	
64	Jan-39	0.03	0.000024997	-0.059668	0	
65	Feb-39	0.03	0.000024997	0.034562	1	
66	Mar-39	0.03	0.000024997	-0.118963	0	
67	Apr-39	0.03	0.000024997	-0.002590	0	
68	May-39	0.03	0.000024997	0.068617	1	
69	Jun-39	0.03	0.000024997	-0.052998	0	
70	Jul-39	0.04	0.000033327	0.101109	1	
71	Aug-39	0.05	0.000041657	-0.066033	0	
72	Sep-39	0.14	0.000116592	0.159534	1	
73	Oct-39	0.05	0.000041657	-0.004183	0	
74	Nov-39	0.05	0.000041657	-0.036321	0	
75	Dec-39	0.04	0.000033327	0.030300	1	
76	Jan-40	0.01	0.000008333	-0.024814	0	
77	Feb-40	0.02	0.000016665	0.014319	1	
78	Mar-40	0.02	0.000016665	0.019001	1	
79	Apr-40	0.02	0.000016665	0.001294	1	
80	May-40	0.06	0.000049986	-0.220243	0	
81	Jun-40	0.10	0.000083295	0.066620	1	
82	Jul-40	0.05	0.000041657	0.032315	1	
83	Aug-40	0.04	0.000033327	0.023404	1	
84	Sep-40	0.05	0.000041657	0.023219	1	
85	Oct-40	0.02	0.000016665	0.029546	1	
86	Nov-40	0.02	0.000016665	-0.016565	0	
87	Dec-40	0.02	0.000016665	0.007065	1	
88	Jan-41	0.02	0.000016665	-0.040354	0	
89	Feb-41	0.04	0.000033327	-0.015118	0	
90	Mar-41	0.11	0.000091620	0.009870	1	
91	Apr-41	0.10	0.000083295	-0.053011	0	
92	May-41	0.11	0.000091620	0.014334	1	
93	Jun-41	0.12	0.000099945	0.058186	1	
94	Jul-41	0.12	0.000099945	0.058581	1	
95	Aug-41	0.13	0.000108269	0.000826	1	
96	Sep-41	0.10	0.000083295	-0.007459	0	
97	Oct-41	0.09	0.000074969	-0.051514	0	
98	Nov-41	0.28	0.000233034	-0.019338	0	
99	Dec-41	0.33	0.000274585	-0.046332	0	
100	Jan-42	0.27	0.000224722	0.005752	1	
101	Feb-42	0.25	0.000208095	-0.022771	0	
102	Mar-42	0.25	0.000208095	-0.065788	0	
103	Apr-42	0.32	0.000266276	-0.043131	0	
104	May-42	0.37	0.000307812	0.061413	1	
105	Jun-42	0.37	0.000307812	0.025228	1	
106	Jul-42	0.38	0.000316116	0.034788	1	
107	Aug-42	0.38	0.000316116	0.018767	1	
108	Sep-42	0.38	0.000316116	0.026204	1	
109	Oct-42	0.38	0.000316116	0.067833	1	
110	Nov-42	0.38	0.000316116	0.001819	1	
111	Dec-42	0.38	0.000316116	0.049310	1	
112	Jan-43	0.38	0.000316116	0.075026	1	
113	Feb-43	0.38	0.000316116	0.059913	1	
114	Mar-43	0.38	0.000316116	0.061395	1	
115	Apr-43	0.38	0.000316116	0.006698	1	
116	May-43	0.38	0.000316116	0.056962	1	
117	Jun-43	0.38	0.000316116	0.016784	1	
118	Jul-43	0.38	0.000316116	-0.046023	0	
119	Aug-43	0.38	0.000316116	0.012894	1	
120	Sep-43	0.38	0.000316116	0.024130	1	

Appendix 7
Moving Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
121	Oct-43	0.38	0.000316116	-0.012327	0	
122	Nov-43	0.38	0.000316116	-0.058127	0	
123	Dec-43	0.38	0.000316116	0.063087	1	
124	Jan-44	0.38	0.000316116	0.018126	1	
125	Feb-44	0.38	0.000316116	0.004166	1	
126	Mar-44	0.38	0.000316116	0.024130	1	
127	Apr-44	0.38	0.000316116	-0.017288	0	
128	May-44	0.38	0.000316116	0.051940	1	
129	Jun-44	0.38	0.000316116	0.056672	1	
130	Jul-44	0.38	0.000316116	-0.015014	0	
131	Aug-44	0.38	0.000316116	0.015220	1	
132	Sep-44	0.38	0.000316116	0.000314	0	
133	Oct-44	0.38	0.000316116	0.002778	1	
134	Nov-44	0.38	0.000316116	0.015399	1	
135	Dec-44	0.38	0.000316116	0.042124	1	
136	Jan-45	0.38	0.000316116	0.018266	1	
137	Feb-45	0.38	0.000316116	0.065229	1	
138	Mar-45	0.38	0.000316116	-0.038993	0	
139	Apr-45	0.38	0.000316116	0.077808	1	
140	May-45	0.38	0.000316116	0.018436	1	
141	Jun-45	0.38	0.000316116	0.003882	1	
142	Jul-45	0.38	0.000316116	-0.022247	0	
143	Aug-45	0.38	0.000316116	0.060615	1	
144	Sep-45	0.38	0.000316116	0.047955	1	
145	Oct-45	0.38	0.000316116	0.039148	1	
146	Nov-45	0.38	0.000316116	0.054569	1	
147	Dec-45	0.38	0.000316116	0.011363	1	
148	Jan-46	0.38	0.000316116	0.061834	1	
149	Feb-46	0.38	0.000316116	-0.057580	0	
150	Mar-46	0.38	0.000316116	0.059506	1	
151	Apr-46	0.38	0.000316116	0.040609	1	
152	May-46	0.38	0.000316116	0.041604	1	
153	Jun-46	0.38	0.000316116	-0.039062	0	
154	Jul-46	0.38	0.000316116	-0.025828	0	
155	Aug-46	0.38	0.000316116	-0.064133	0	
156	Sep-46	0.38	0.000316116	-0.100862	0	
157	Oct-46	0.38	0.000316116	-0.014064	0	
158	Nov-46	0.38	0.000316116	0.002492	1	
159	Dec-46	0.38	0.000316116	0.050590	1	
160	Jan-47	0.38	0.000316116	0.015135	1	
161	Feb-47	0.38	0.000316116	-0.011755	0	
162	Mar-47	0.38	0.000316116	-0.016868	0	
163	Apr-47	0.38	0.000316116	-0.047786	0	
164	May-47	0.38	0.000316116	-0.010132	0	
165	Jun-47	0.38	0.000316116	0.053645	1	
166	Jul-47	0.66	0.000548343	0.041413	1	
167	Aug-47	0.75	0.000622862	-0.017547	0	
168	Sep-47	0.80	0.000664235	-0.004474	0	
169	Oct-47	0.85	0.000705589	0.024661	1	
170	Nov-47	0.92	0.000763453	-0.018095	0	
171	Dec-47	0.95	0.000788240	0.029869	1	
172	Jan-48	0.97	0.000804762	-0.037019	0	
173	Feb-48	1.00	0.000829538	-0.043558	0	
174	Mar-48	1.00	0.000829538	0.082635	1	
175	Apr-48	1.00	0.000829538	0.037713	1	
176	May-48	1.00	0.000829538	0.074452	1	
177	Jun-48	1.00	0.000829538	0.000000	0	
178	Jul-48	1.00	0.000829538	-0.050405	0	
179	Aug-48	1.06	0.000879071	0.003858	1	
180	Sep-48	1.09	0.000903827	-0.028410	0	

Appendix 7
Moving Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
181	Oct-48	1.12	0.000928576	0.059755	1	
182	Nov-48	1.14	0.000945072	-0.090552	0	
183	Dec-48	1.16	0.000961565	0.032116	1	
184	Jan-49	1.17	0.000969810	0.002959	1	
185	Feb-49	1.17	0.000969810	-0.026716	0	
186	Mar-49	1.17	0.000969810	0.040833	1	
187	Apr-49	1.17	0.000969810	-0.018052	0	
188	May-49	1.17	0.000969810	-0.027347	0	
189	Jun-49	1.17	0.000969810	0.003438	1	
190	Jul-49	1.02	0.000846052	0.055466	1	
191	Aug-49	1.04	0.000862563	0.026510	1	
192	Sep-49	1.07	0.000887323	0.032073	1	
193	Oct-49	1.05	0.000870817	0.031556	1	
194	Nov-49	1.08	0.000895575	0.019216	1	
195	Dec-49	1.10	0.000912077	0.052606	1	
196	Jan-50	1.07	0.000887323	0.016316	1	
197	Feb-50	1.12	0.000928576	0.014517	1	
198	Mar-50	1.12	0.000928576	0.012156	1	
199	Apr-50	1.15	0.000953319	0.040147	1	
200	May-50	1.16	0.000961565	0.042938	1	
201	Jun-50	1.15	0.000953319	-0.056538	0	
202	Jul-50	1.16	0.000961565	0.015950	1	
203	Aug-50	1.20	0.000994542	0.050350	1	
204	Sep-50	1.30	0.001076932	0.048811	1	
205	Oct-50	1.31	0.001085166	-0.001401	0	
206	Nov-50	1.36	0.001126330	0.029023	1	
207	Dec-50	1.34	0.001109867	0.057189	1	
208	Jan-51	1.34	0.001109867	0.057915	1	
209	Feb-51	1.36	0.001126330	0.015151	1	
210	Mar-51	1.40	0.001159247	-0.021026	0	
211	Apr-51	1.47	0.001216823	0.049745	1	
212	May-51	1.55	0.001282580	-0.022567	0	
213	Jun-51	1.45	0.001200377	-0.025210	0	
214	Jul-51	1.56	0.001290797	0.070916	1	
215	Aug-51	1.62	0.001340079	0.045071	1	
216	Sep-51	1.63	0.001348280	0.006889	1	
217	Oct-51	1.54	0.001274363	-0.022363	0	
218	Nov-51	1.56	0.001290797	0.006005	1	
219	Dec-51	1.73	0.001430360	0.034946	1	
220	Jan-52	1.57	0.001299012	0.017031	1	
221	Feb-52	1.54	0.001274363	-0.024816	0	
222	Mar-52	1.59	0.001315441	0.045415	1	
223	Apr-52	1.57	0.001299012	-0.048719	0	
224	May-52	1.67	0.001381127	0.032570	1	
225	Jun-52	1.70	0.001405747	0.039376	1	
226	Jul-52	1.81	0.001495963	0.011904	1	
227	Aug-52	1.83	0.001512357	-0.006970	0	
228	Sep-52	1.71	0.001413952	-0.018220	0	
229	Oct-52	1.74	0.001438663	-0.005267	0	
230	Nov-52	1.85	0.001528747	0.058860	1	
231	Dec-52	2.09	0.001725202	0.031256	1	
232	Jan-53	1.96	0.001618842	-0.001666	0	
233	Feb-53	1.97	0.001627028	-0.001633	0	
234	Mar-53	2.01	0.001659764	-0.013344	0	
235	Apr-53	2.19	0.001806834	-0.027384	0	
236	May-53	2.16	0.001782422	0.006736	1	
237	Jun-53	2.11	0.001741555	-0.016281	0	
238	Jul-53	2.04	0.001684309	0.025195	1	
239	Aug-53	2.04	0.001684309	-0.043985	0	
240	Sep-53	1.79	0.001479567	0.003065	1	

Appendix 7
Moving Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
241	Oct-53	1.38	0.001142790	0.047035	1	
242	Nov-53	1.44	0.001192152	0.028259	1	
243	Dec-53	1.60	0.001323654	0.000668	0	
244	Jan-54	1.18	0.000978055	0.050581	1	
245	Feb-54	0.97	0.000804762	0.019202	1	
246	Mar-54	1.03	0.000854308	0.037774	1	
247	Apr-54	0.97	0.000804762	0.042626	1	
248	May-54	0.76	0.000631138	0.031362	1	
249	Jun-54	0.64	0.000531775	0.011370	1	
250	Jul-54	0.72	0.000598029	0.050421	1	
251	Aug-54	0.92	0.000763453	-0.022528	0	
252	Sep-54	1.01	0.000837795	0.064310	1	
253	Oct-54	0.98	0.000813021	-0.016237	0	
254	Nov-54	0.93	0.000771716	0.095950	1	
255	Dec-54	1.15	0.000953319	0.055287	1	
256	Jan-55	1.22	0.001011026	0.007071	1	
257	Feb-55	1.17	0.000969810	0.031377	1	
258	Mar-55	1.28	0.001060460	-0.001187	0	
259	Apr-55	1.59	0.001315441	0.032271	1	
260	May-55	1.45	0.001200377	0.011918	1	
261	Jun-55	1.41	0.001167474	0.065856	1	
262	Jul-55	1.60	0.001323654	0.020050	1	
263	Aug-55	1.90	0.001569710	0.004367	1	
264	Sep-55	2.07	0.001708847	-0.002247	0	
265	Oct-55	2.23	0.001839606	-0.025694	0	
266	Nov-55	2.24	0.001847772	0.071576	1	
267	Dec-55	2.54	0.002092418	0.016534	1	
268	Jan-56	2.41	0.001986485	-0.028041	0	
269	Feb-56	2.32	0.001913075	0.039581	1	
270	Mar-56	2.25	0.001855938	0.068140	1	
271	Apr-56	2.60	0.002141268	0.005029	1	
272	May-56	2.61	0.002149407	-0.049621	0	
273	Jun-56	2.49	0.002051689	0.037353	1	
274	Jul-56	2.31	0.001904915	0.051023	1	
275	Aug-56	2.60	0.002141268	-0.028948	0	
276	Sep-56	2.84	0.002336408	-0.049928	0	
277	Oct-56	2.90	0.002385128	0.007153	1	
278	Nov-56	2.99	0.002458159	0.007393	1	
279	Dec-56	3.21	0.002636433	0.030407	1	
280	Jan-57	3.11	0.002555442	-0.031261	0	
281	Feb-57	3.10	0.002547339	-0.018445	0	
282	Mar-57	3.08	0.002531131	0.023694	1	
283	Apr-57	3.07	0.002523026	0.044984	1	
284	May-57	3.06	0.002514920	0.035899	1	
285	Jun-57	3.29	0.002701173	-0.005829	0	
286	Jul-57	3.16	0.002595947	0.009607	1	
287	Aug-57	3.37	0.002765868	-0.049625	0	
288	Sep-57	3.53	0.002895119	-0.057748	0	
289	Oct-57	3.58	0.002935473	-0.041456	0	
290	Nov-57	3.31	0.002717351	0.024297	1	
291	Dec-57	3.04	0.002498706	-0.037999	0	
292	Jan-58	2.44	0.002010942	0.050093	1	
293	Feb-58	1.53	0.001266145	-0.013997	0	
294	Mar-58	1.30	0.001076932	0.033490	1	
295	Apr-58	1.13	0.000936825	0.030427	1	
296	May-58	0.91	0.000755189	0.024628	1	
297	Jun-58	0.83	0.000689049	0.029478	1	
298	Jul-58	0.91	0.000755189	0.045035	1	
299	Aug-58	1.69	0.001397541	0.018718	1	
300	Sep-58	2.44	0.002010942	0.049300	1	

Appendix 7
Moving Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
301	Oct-58	2.63	0.002165684	0.026994	1	
302	Nov-58	2.67	0.002198227	0.030391	1	
303	Dec-58	2.77	0.002279536	0.053243	1	
304	Jan-59	2.82	0.002320162	0.009579	1	
305	Feb-59	2.70	0.002222627	0.011203	1	
306	Mar-59	2.80	0.002303914	0.004896	1	
307	Apr-59	2.95	0.002425708	0.039156	1	
308	May-59	2.84	0.002336408	0.020046	1	
309	Jun-59	3.21	0.002636433	0.001206	0	
310	Jul-59	3.20	0.002628337	0.034271	1	
311	Aug-59	3.38	0.002773951	-0.011601	0	
312	Sep-59	4.04	0.003305890	-0.044757	0	
313	Oct-59	4.05	0.003313926	0.015253	1	
314	Nov-59	4.15	0.003394246	0.018226	1	
315	Dec-59	4.49	0.003668805	0.029019	1	
316	Jan-60	4.35	0.003554874	-0.067264	0	
317	Feb-60	3.96	0.003241578	0.012459	1	
318	Mar-60	3.31	0.002717351	-0.012115	0	
319	Apr-60	3.23	0.002652622	-0.015449	0	
320	May-60	3.29	0.002701173	0.033281	1	
321	Jun-60	2.46	0.002027243	0.023131	1	
322	Jul-60	2.30	0.001896754	-0.020766	0	
323	Aug-60	2.30	0.001896754	0.030049	1	
324	Sep-60	2.48	0.002043541	-0.058107	0	
325	Oct-60	2.30	0.001896754	-0.004575	0	
326	Nov-60	2.37	0.001953866	0.047922	1	
327	Dec-60	2.25	0.001855938	0.048077	1	
328	Jan-61	2.24	0.001847772	0.064465	1	
329	Feb-61	2.42	0.001994638	0.037091	1	
330	Mar-61	2.39	0.001970177	0.030962	1	
331	Apr-61	2.29	0.001888592	0.005852	1	
332	May-61	2.29	0.001888592	0.025904	1	
333	Jun-61	2.33	0.001921235	-0.028474	0	
334	Jul-61	2.24	0.001847772	0.030708	1	
335	Aug-61	2.39	0.001970177	0.027137	1	
336	Sep-61	2.28	0.001880429	-0.018754	0	
337	Oct-61	2.30	0.001896754	0.027114	1	
338	Nov-61	2.48	0.002043541	0.046075	1	
339	Dec-61	2.60	0.002141268	0.000667	0	
340	Jan-62	2.72	0.002238890	-0.036341	0	
341	Feb-62	2.73	0.002247021	0.019038	1	
342	Mar-62	2.72	0.002238890	-0.005640	0	
343	Apr-62	2.73	0.002247021	-0.062734	0	
344	May-62	2.69	0.002214495	-0.084534	0	
345	Jun-62	2.73	0.002247021	-0.082724	0	
346	Jul-62	2.92	0.002401362	0.066076	1	
347	Aug-62	2.82	0.002320162	0.023381	1	
348	Sep-62	2.78	0.002287662	-0.050120	0	
349	Oct-62	2.74	0.002255151	0.002122	0	
350	Nov-62	2.83	0.002328286	0.110113	1	
351	Dec-62	2.87	0.002360771	0.011852	1	
352	Jan-63	2.91	0.002393245	0.051843	1	
353	Feb-63	2.92	0.002401362	-0.021927	0	
354	Mar-63	2.89	0.002377010	0.032926	1	
355	Apr-63	2.90	0.002385128	0.047437	1	
356	May-63	2.93	0.002409478	0.020033	1	
357	Jun-63	2.99	0.002458159	-0.018028	0	
358	Jul-63	3.18	0.002612143	-0.001699	0	
359	Aug-63	3.32	0.002725439	0.052685	1	
360	Sep-63	3.38	0.002773951	-0.011904	0	

Appendix 7
Moving Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
361	Oct-63	3.45	0.002830517	0.027730	1	
362	Nov-63	3.52	0.002887047	-0.005551	0	
363	Dec-63	3.52	0.002887047	0.021737	1	
364	Jan-64	3.52	0.002887047	0.025795	1	
365	Feb-64	3.53	0.002895119	0.017170	1	
366	Mar-64	3.54	0.002903192	0.017651	1	
367	Apr-64	3.47	0.002846672	0.004622	1	
368	May-64	3.48	0.002854748	0.017412	1	
369	Jun-64	3.48	0.002854748	0.015080	1	
370	Jul-64	3.46	0.002838594	0.020128	1	
371	Aug-64	3.50	0.002870899	-0.011268	0	
372	Sep-64	3.53	0.002895119	0.030462	1	
373	Oct-64	3.57	0.002927404	0.008859	1	
374	Nov-64	3.64	0.002983874	0.003090	1	
375	Dec-64	3.84	0.003145024	0.003714	1	
376	Jan-65	3.81	0.003120870	0.038648	1	
377	Feb-65	3.93	0.003217449	0.006951	1	
378	Mar-65	3.93	0.003217449	-0.009732	0	
379	Apr-65	3.93	0.003217449	0.033639	1	
380	May-65	3.89	0.003185267	-0.004347	0	
381	Jun-65	3.80	0.003112817	-0.051859	0	
382	Jul-65	3.84	0.003145024	0.016723	1	
383	Aug-65	3.84	0.003145024	0.030879	1	
384	Sep-65	3.92	0.003209405	0.031935	1	
385	Oct-65	4.03	0.003297854	0.029282	1	
386	Nov-65	4.09	0.003346063	0.003047	0	
387	Dec-65	4.38	0.003578713	0.013540	1	
388	Jan-66	4.59	0.003746815	0.012107	1	0.643229
389	Feb-66	4.65	0.003794787	-0.008637	0	0.644156
390	Mar-66	4.59	0.003746815	-0.020912	0	0.642487
391	Apr-66	4.62	0.003770804	0.024809	1	0.640827
392	May-66	4.64	0.003786794	-0.052499	0	0.641753
393	Jun-66	4.50	0.003674809	-0.010316	0	0.640103
394	Jul-66	4.80	0.003914608	-0.012877	0	0.638462
395	Aug-66	4.96	0.004042243	-0.075347	0	0.636829
396	Sep-66	5.37	0.004368496	-0.006954	0	0.635204
397	Oct-66	5.35	0.004352608	0.042323	1	0.633588
398	Nov-66	5.32	0.004328771	0.017506	1	0.634518
399	Dec-66	4.96	0.004042243	0.006209	1	0.635443
400	Jan-67	4.72	0.003850723	0.085511	1	0.636364
401	Feb-67	4.56	0.003722819	0.010936	1	0.637280
402	Mar-67	4.26	0.003482516	0.043404	1	0.638191
403	Apr-67	3.84	0.003145024	0.041599	1	0.639098
404	May-67	3.60	0.002951609	-0.039348	0	0.640000
405	Jun-67	3.54	0.002903192	0.026870	1	0.638404
406	Jul-67	4.21	0.003442404	0.049167	1	0.639303
407	Aug-67	4.27	0.003490536	-0.006223	0	0.640199
408	Sep-67	4.42	0.003610757	0.034284	1	0.638614
409	Oct-67	4.56	0.003722819	-0.027414	0	0.639506
410	Nov-67	4.73	0.003858711	0.007906	1	0.637931
411	Dec-67	4.97	0.004050214	0.033698	1	0.638821
412	Jan-68	5.00	0.004074124	-0.036354	0	0.639706
413	Feb-68	4.98	0.004058185	-0.033612	0	0.638142
414	Mar-68	5.17	0.004209494	0.005099	1	0.636585
415	Apr-68	5.38	0.004376439	0.094149	1	0.637470
416	May-68	5.66	0.004598558	0.027030	1	0.638350
417	Jun-68	5.52	0.004487566	0.011513	1	0.639225
418	Jul-68	5.31	0.004320824	-0.022022	0	0.640097
419	Aug-68	5.09	0.004145815	0.018042	1	0.638554
420	Sep-68	5.19	0.004225406	0.044442	1	0.639423

Appendix 7
Moving Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
421	Oct-68	5.35	0.004352608	0.009049	1	0.640288
422	Nov-68	5.45	0.004432019	0.058508	1	0.641148
423	Dec-68	5.96	0.004835945	-0.033887	0	0.642005
424	Jan-69	6.14	0.004978082	-0.006708	0	0.640476
425	Feb-69	6.12	0.004962300	-0.053627	0	0.638955
426	Mar-69	6.02	0.004883349	0.030489	1	0.637441
427	Apr-69	6.11	0.004954408	0.020545	1	0.638298
428	May-69	6.04	0.004899145	0.005045	1	0.639151
429	Jun-69	6.44	0.005214487	-0.067361	0	0.640000
430	Jul-69	7.00	0.005654145	-0.065164	0	0.638498
431	Aug-69	6.98	0.005638480	0.051470	1	0.637002
432	Sep-69	7.09	0.005724608	-0.022582	0	0.637850
433	Oct-69	7.00	0.005654145	0.055636	1	0.636364
434	Nov-69	7.24	0.005841925	-0.032160	0	0.637209
435	Dec-69	7.82	0.006294141	-0.019674	0	0.635731
436	Jan-70	7.87	0.006333020	-0.073248	0	0.634259
437	Feb-70	7.13	0.005755907	0.056714	1	0.632794
438	Mar-70	6.63	0.005363894	-0.004723	0	0.633641
439	Apr-70	6.51	0.005269560	-0.105318	0	0.632184
440	May-70	6.84	0.005528744	-0.064342	0	0.630734
441	Jun-70	6.68	0.005403171	-0.051074	0	0.629291
442	Jul-70	6.45	0.005222356	0.074198	1	0.627854
443	Aug-70	6.41	0.005190874	0.050040	1	0.628702
444	Sep-70	6.12	0.004962300	0.047495	1	0.629545
445	Oct-70	5.91	0.004796424	-0.018162	0	0.630385
446	Nov-70	5.28	0.004296979	0.050452	1	0.628959
447	Dec-70	4.87	0.003970470	0.060708	1	0.629797
448	Jan-71	4.44	0.003626774	0.052018	1	0.630631
449	Feb-71	3.70	0.003032249	0.016903	1	0.631461
450	Mar-71	3.38	0.002773951	0.044791	1	0.632287
451	Apr-71	3.86	0.003161124	0.033328	1	0.633110
452	May-71	4.14	0.003386217	-0.036389	0	0.633929
453	Jun-71	4.75	0.003874685	0.003127	0	0.632517
454	Jul-71	5.40	0.004392322	-0.040278	0	0.631111
455	Aug-71	4.94	0.004026298	0.042504	1	0.629712
456	Sep-71	4.69	0.003826755	-0.005009	0	0.630531
457	Oct-71	4.46	0.003642789	-0.040669	0	0.629139
458	Nov-71	4.22	0.003450428	-0.001259	0	0.627753
459	Dec-71	4.01	0.003281778	0.091246	1	0.626374
460	Jan-72	3.38	0.002773951	0.028383	1	0.627193
461	Feb-72	3.20	0.002628337	0.031331	1	0.628009
462	Mar-72	3.73	0.003056427	0.008732	1	0.628821
463	Apr-72	3.71	0.003040309	0.005491	1	0.629630
464	May-72	3.69	0.003024188	0.016376	1	0.630435
465	Jun-72	3.91	0.003201360	-0.020898	0	0.631236
466	Jul-72	3.98	0.003257660	-0.004248	0	0.629870
467	Aug-72	4.02	0.003289816	0.035977	1	0.628510
468	Sep-72	4.66	0.003802780	-0.007667	0	0.629310
469	Oct-72	4.74	0.003866698	0.008682	1	0.627957
470	Nov-72	4.78	0.003898641	0.049764	1	0.628755
471	Dec-72	5.07	0.004129889	0.011244	1	0.629550
472	Jan-73	5.41	0.004400263	-0.027653	0	0.630342
473	Feb-73	5.60	0.004551007	-0.044493	0	0.628998
474	Mar-73	6.09	0.004938622	-0.007944	0	0.627660
475	Apr-73	6.26	0.005072717	-0.051737	0	0.626327
476	May-73	6.36	0.005151505	-0.024496	0	0.625000
477	Jun-73	7.19	0.005802836	-0.008699	0	0.623679
478	Jul-73	8.01	0.006441795	0.057111	1	0.622363
479	Aug-73	8.67	0.006952858	-0.029644	0	0.623158
480	Sep-73	8.29	0.006658959	0.053994	1	0.621849

Appendix 7
Moving Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
481	Oct-73	7.22	0.005826292	-0.000307	0	0.622642
482	Nov-73	7.83	0.006301918	-0.120883	0	0.621339
483	Dec-73	7.45	0.006005917	0.011442	1	0.620042
484	Jan-74	7.77	0.006255245	0.005024	0	0.620833
485	Feb-74	7.12	0.005748083	0.002618	0	0.619543
486	Mar-74	7.96	0.006402962	-0.022880	0	0.618257
487	Apr-74	8.33	0.006689940	-0.046381	0	0.616977
488	May-74	8.23	0.006612467	-0.041966	0	0.615702
489	Jun-74	7.90	0.006356340	-0.022942	0	0.614433
490	Jul-74	7.55	0.006083905	-0.070891	0	0.613169
491	Aug-74	8.96	0.007176517	-0.087741	0	0.611910
492	Sep-74	8.06	0.006480612	-0.109710	0	0.610656
493	Oct-74	7.46	0.006013719	0.165619	1	0.609407
494	Nov-74	7.47	0.006021520	-0.040942	0	0.610204
495	Dec-74	7.15	0.005771553	-0.027001	0	0.608961
496	Jan-75	6.26	0.005072717	0.141415	1	0.607724
497	Feb-75	5.50	0.004471699	0.058612	1	0.608519
498	Mar-75	5.49	0.004463764	0.030159	1	0.609312
499	Apr-75	5.61	0.004558934	0.046418	1	0.610101
500	May-75	5.23	0.004257223	0.055161	1	0.610887
501	Jun-75	5.34	0.004344663	0.051587	1	0.611870
502	Jul-75	6.13	0.004970192	-0.060448	0	0.612450
503	Aug-75	6.44	0.005214487	-0.023613	0	0.611222
504	Sep-75	6.42	0.005198745	-0.037963	0	0.610000
505	Oct-75	5.96	0.004835945	0.056040	1	0.608782
506	Nov-75	5.48	0.004455829	0.031163	1	0.609562
507	Dec-75	5.44	0.004424081	-0.011013	0	0.610338
508	Jan-76	4.87	0.003970470	0.125954	1	0.609127
509	Feb-76	4.88	0.003978448	0.007168	1	0.609901
510	Mar-76	5.00	0.004074124	0.026807	1	0.610672
511	Apr-76	4.86	0.003962492	-0.010483	0	0.611440
512	May-76	5.20	0.004233362	-0.009362	0	0.610236
513	Jun-76	5.41	0.004400263	0.044445	1	0.609037
514	Jul-76	5.23	0.004257223	-0.006112	0	0.609804
515	Aug-76	5.14	0.004185619	-0.001385	0	0.608611
516	Sep-76	5.08	0.004137852	0.024500	1	0.607422
517	Oct-76	4.92	0.004010351	-0.020399	0	0.608187
518	Nov-76	4.75	0.003874685	0.005581	1	0.607004
519	Dec-76	4.35	0.003554674	0.061599	1	0.607767
520	Jan-77	4.62	0.003770804	-0.036351	0	0.608527
521	Feb-77	4.67	0.003810772	-0.015762	0	0.607350
522	Mar-77	4.60	0.003754812	-0.009253	0	0.606178
523	Apr-77	4.54	0.003706819	0.004958	1	0.605010
524	May-77	4.96	0.004042243	-0.010791	0	0.605769
525	Jun-77	5.02	0.004090060	0.051359	1	0.604607
526	Jul-77	5.19	0.004225406	-0.012810	0	0.605364
527	Aug-77	5.49	0.004463764	-0.013361	0	0.604207
528	Sep-77	5.81	0.004717329	0.001573	0	0.603053
529	Oct-77	6.16	0.004993862	-0.039287	0	0.601905
530	Nov-77	6.10	0.004946515	0.045428	1	0.600760
531	Dec-77	6.07	0.004922833	0.008208	1	0.601518
532	Jan-78	6.44	0.005214487	-0.055196	0	0.602273
533	Feb-78	6.45	0.005222356	-0.009274	0	0.601134
534	Mar-78	6.29	0.005096361	0.033999	1	0.600000
535	Apr-78	6.29	0.005096361	0.082847	1	0.600753
536	May-78	6.41	0.005190874	0.023226	1	0.601504
537	Jun-78	6.73	0.005442431	-0.010751	0	0.602251
538	Jul-78	7.01	0.005661977	0.056740	1	0.601124
539	Aug-78	7.08	0.005716782	0.042351	1	0.601869
540	Sep-78	7.85	0.006317470	-0.006892	0	0.602612

Appendix 7
Moving Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
541	Oct-78	7.99	0.006426264	-0.110991	0	0.601490
542	Nov-78	8.64	0.006929690	0.033788	1	0.600372
543	Dec-78	9.08	0.007268905	0.017714	1	0.601113
544	Jan-79	9.35	0.007476440	0.049352	1	0.601852
545	Feb-79	9.32	0.007453404	-0.026654	0	0.602588
546	Mar-79	9.48	0.007576197	0.065635	1	0.601476
547	Apr-79	9.46	0.007560857	0.008533	1	0.602210
548	May-79	9.61	0.007675845	-0.013516	0	0.602941
549	Jun-79	9.06	0.007253514	0.046801	1	0.601835
550	Jul-79	9.24	0.007391946	0.014933	1	0.602564
551	Aug-79	9.52	0.007606869	0.064850	1	0.603291
552	Sep-79	10.26	0.008172466	0.001366	0	0.604015
553	Oct-79	11.70	0.009263184	-0.072639	0	0.602914
554	Nov-79	11.79	0.009330925	0.063499	1	0.601818
555	Dec-79	12.04	0.009518832	0.028026	1	0.602541
556	Jan-80	12.00	0.009488793	0.065478	1	0.603261
557	Feb-80	12.86	0.010132483	0.000810	0	0.603978
558	Mar-80	15.20	0.011861426	-0.120111	0	0.602888
559	Apr-80	13.20	0.010385726	0.052391	1	0.601802
560	May-80	8.58	0.006883336	0.060184	1	0.602518
561	Jun-80	7.07	0.005708954	0.037640	1	0.603232
562	Jul-80	8.06	0.006480612	0.069260	1	0.603943
563	Aug-80	9.13	0.007307373	0.023526	1	0.604651
564	Sep-80	10.27	0.008180085	0.029525	1	0.605357
565	Oct-80	11.62	0.009202927	0.019953	1	0.606061
566	Nov-80	13.73	0.010779100	0.104863	1	0.606762
567	Dec-80	15.49	0.012073449	-0.034204	0	0.607460
568	Jan-81	15.02	0.011729578	-0.040066	0	0.606383
569	Feb-81	14.79	0.011560831	0.015556	1	0.605310
570	Mar-81	13.36	0.010504658	0.046342	1	0.606007
571	Apr-81	13.69	0.010749470	-0.011243	0	0.606702
572	May-81	16.30	0.012663079	0.013534	1	0.605634
573	Jun-81	14.73	0.011516759	-0.010176	0	0.606327
574	Jul-81	14.95	0.011678253	-0.003063	0	0.605263
575	Aug-81	15.51	0.012089054	-0.056263	0	0.604203
576	Sep-81	14.70	0.011494715	-0.063747	0	0.603147
577	Oct-81	13.54	0.010638273	0.060183	1	0.602094
578	Nov-81	10.86	0.008628509	0.045837	1	0.602787
579	Dec-81	10.85	0.008620927	-0.028082	0	0.603478
580	Jan-82	12.28	0.009698863	-0.026205	0	0.602431
581	Feb-82	13.48	0.010593756	-0.051119	0	0.601386
582	Mar-82	12.68	0.009998130	-0.010083	0	0.600346
583	Apr-82	12.70	0.010013068	0.043274	1	0.599309
584	May-82	12.09	0.009556368	-0.028197	0	0.600000
585	Jun-82	12.47	0.009841136	-0.023914	0	0.598967
586	Jul-82	11.35	0.008999269	-0.020539	0	0.597938
587	Aug-82	8.68	0.006960580	0.119023	1	0.596913
588	Sep-82	7.92	0.006371883	0.016758	1	0.597603
589	Oct-82	7.71	0.006208547	0.118634	1	0.598291
590	Nov-82	8.07	0.006488374	0.051924	1	0.598976
591	Dec-82	7.94	0.006387424	0.014449	1	0.599659
592	Jan-83	7.86	0.006325246	0.041546	1	0.600340
593	Feb-83	8.11	0.006519413	0.030516	1	0.601019
594	Mar-83	8.35	0.006705427	0.034712	1	0.601695
595	Apr-83	8.21	0.006596965	0.074280	1	0.602369
596	May-83	8.19	0.006581459	0.013076	1	0.603041
597	Jun-83	8.79	0.007045473	0.038002	1	0.603710
598	Jul-83	9.08	0.007268905	-0.031772	0	0.604377
599	Aug-83	9.34	0.007468762	0.003574	0	0.603361
600	Sep-83	9.00	0.007207323	0.016311	1	0.602349

Appendix 7
Moving Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
601	Oct-83	8.64	0.006929690	-0.027757	0	0.603015
602	Nov-83	8.76	0.007022328	0.029360	1	0.602007
603	Dec-83	9.00	0.007207323	-0.010440	0	0.602671
604	Jan-84	8.90	0.007130287	-0.012918	0	0.601667
605	Feb-84	9.09	0.007276600	-0.039170	0	0.600666
606	Mar-84	9.52	0.007606869	0.013449	1	0.599668
607	Apr-84	9.69	0.007737113	0.002734	0	0.600332
608	May-84	9.83	0.007844234	-0.052350	0	0.599338
609	Jun-84	9.87	0.007874816	0.023603	1	0.598347
610	Jul-84	10.12	0.008065729	-0.020361	0	0.599010
611	Aug-84	10.47	0.008332339	0.112572	1	0.598023
612	Sep-84	10.37	0.008256244	0.000374	0	0.598684
613	Oct-84	9.74	0.007775385	0.000124	0	0.597701
614	Nov-84	8.61	0.006906516	-0.010494	0	0.596721
615	Dec-84	8.06	0.006480612	0.023806	1	0.595745
616	Jan-85	7.76	0.006247463	0.085748	1	0.596405
617	Feb-85	8.27	0.006643464	0.017011	1	0.597064
618	Mar-85	8.52	0.006836958	-0.001918	0	0.597720
619	Apr-85	7.95	0.006395193	-0.002192	0	0.596748
620	May-85	7.48	0.006029320	0.055891	1	0.595779
621	Jun-85	6.95	0.005614976	0.017182	1	0.596434
622	Jul-85	7.08	0.005716782	-0.000557	0	0.597087
623	Aug-85	7.14	0.005763730	-0.004748	0	0.596123
624	Sep-85	7.10	0.005732434	-0.039671	0	0.595161
625	Oct-85	7.16	0.005779375	0.044589	1	0.594203
626	Nov-85	7.24	0.005841925	0.069278	1	0.594855
627	Dec-85	7.10	0.005732434	0.043264	1	0.595506
628	Jan-86	7.07	0.005708954	0.009841	1	0.596154
629	Feb-86	7.06	0.005701126	0.072852	1	0.596800
630	Mar-86	6.56	0.005308877	0.053891	1	0.597444
631	Apr-86	6.06	0.004914938	-0.008076	0	0.598086
632	May-86	6.15	0.004985972	0.050831	1	0.597134
633	Jun-86	6.21	0.005033298	0.014291	1	0.597774
634	Jul-86	5.83	0.004733153	-0.059679	0	0.598413
635	Aug-86	5.53	0.004495498	0.066401	1	0.597464
636	Sep-86	5.21	0.004241316	-0.079141	0	0.598101
637	Oct-86	5.18	0.004217450	0.049434	1	0.597156
638	Nov-86	5.35	0.004352608	0.015173	1	0.597792
639	Dec-86	5.53	0.004495498	-0.026553	0	0.598425
640	Jan-87	5.43	0.004416143	0.128386	1	0.597484
641	Feb-87	5.59	0.004543079	0.047617	1	0.598116
642	Mar-87	5.59	0.004543079	0.023247	1	0.598746
643	Apr-87	5.64	0.004582710	-0.017126	0	0.599374
644	May-87	5.66	0.004598558	0.005221	1	0.598438
645	Jun-87	5.67	0.004606481	0.043839	1	0.599064
646	Jul-87	5.69	0.004622325	0.044057	1	0.599688
647	Aug-87	6.04	0.004899145	0.037243	1	0.600311
648	Sep-87	6.40	0.005183001	-0.020736	0	0.600932
649	Oct-87	6.13	0.004970192	-0.224881	0	0.600000
650	Nov-87	5.69	0.004622325	-0.072928	0	0.599071
651	Dec-87	5.77	0.004685672	0.070875	1	0.598145
652	Jan-88	5.81	0.004717329	0.045343	1	0.598765
653	Feb-88	5.66	0.004598558	0.051620	1	0.598384
654	Mar-88	5.70	0.004630246	-0.017070	0	0.600000
655	Apr-88	5.91	0.004796424	0.010974	1	0.599078
656	May-88	6.26	0.005072717	0.000943	0	0.599693
657	Jun-88	6.46	0.005230225	0.051381	1	0.598775
658	Jul-88	6.73	0.005442431	-0.007193	0	0.599388
659	Aug-88	7.06	0.005701126	-0.027921	0	0.598473
660	Sep-88	7.24	0.005841925	0.037289	1	0.597561

Appendix 7
Moving Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
661	Oct-88	7.35	0.005927862	0.017659	1	0.598174
662	Nov-88	7.76	0.006247463	-0.016404	0	0.598784
663	Dec-88	8.07	0.006488374	0.021017	1	0.597876
664	Jan-89	8.27	0.006643464	0.065959	1	0.598485
665	Feb-89	8.53	0.006844689	-0.016371	0	0.599092
666	Mar-89	8.82	0.007068612	0.021537	1	0.598187
667	Apr-89	8.65	0.006937413	0.048543	1	0.598793
668	May-89	8.43	0.006767347	0.039536	1	0.599398
669	Jun-89	8.15	0.006550441	-0.004923	0	0.600000
670	Jul-89	7.88	0.006340794	0.077114	1	0.599099
671	Aug-89	7.90	0.006356340	0.021965	1	0.599700
672	Sep-89	7.75	0.006239681	-0.001590	0	0.600299
673	Oct-89	7.64	0.006154037	-0.029390	0	0.599402
674	Nov-89	7.69	0.006192976	0.017851	1	0.598507
675	Dec-89	7.63	0.006146247	0.018288	1	0.599106
676	Jan-90	7.64	0.006154037	-0.070060	0	0.599702
677	Feb-90	7.74	0.006231899	0.014980	1	0.598811
678	Mar-90	7.90	0.006356340	0.024164	1	0.599407
679	Apr-90	7.77	0.006255245	-0.028155	0	0.600000
680	May-90	7.74	0.006231899	0.088891	1	0.599112
681	Jun-90	7.73	0.006224116	-0.004296	0	0.599705
682	Jul-90	7.62	0.006138457	-0.009385	0	0.598820
683	Aug-90	7.45	0.006005917	-0.091743	0	0.597938
684	Sep-90	7.36	0.005935671	-0.053869	0	0.597059
685	Oct-90	7.17	0.005787196	-0.012416	0	0.596182
686	Nov-90	7.06	0.005701126	0.065986	1	0.595308
687	Dec-90	6.74	0.005450281	0.029550	1	0.595900
688	Jan-91	6.22	0.005041183	0.049068	1	0.596491
689	Feb-91	5.94	0.004820139	0.075688	1	0.597080
690	Mar-91	5.91	0.004796424	0.028792	1	0.597668
691	Apr-91	5.65	0.004590635	0.003331	0	0.598253
692	May-91	5.46	0.004439957	0.040606	1	0.597384
693	Jun-91	5.57	0.004527222	-0.044248	0	0.597968
694	Jul-91	5.58	0.004535151	0.046841	1	0.597101
695	Aug-91	5.33	0.004336718	0.026914	1	0.597685
696	Sep-91	5.22	0.004249270	-0.011063	0	0.598266
697	Oct-91	4.99	0.004066155	0.017714	1	0.597403
698	Nov-91	4.56	0.003722819	-0.037272	0	0.597983
699	Dec-91	4.07	0.003329996	0.107060	1	0.597122
700	Jan-92	3.80	0.003112817	-0.001692	0	0.597701
701	Feb-92	3.84	0.003145024	0.013278	1	0.596844
702	Mar-92	4.04	0.003305890	-0.023688	0	0.597421
703	Apr-92	3.75	0.003072542	0.013837	1	0.596567
704	May-92	3.63	0.002975809	0.006493	1	0.597143
705	Jun-92	3.66	0.003000002	-0.019246	0	0.597718
706	Jul-92	3.21	0.002636433	0.039937	1	0.596866
707	Aug-92	3.13	0.002571646	-0.020762	0	0.597440
708	Sep-92	2.91	0.002393245	0.012427	1	0.596591
709	Oct-92	2.86	0.002352651	0.010907	1	0.597163
710	Nov-92	3.13	0.002571646	0.040189	1	0.597734
711	Dec-92	3.22	0.002644528	0.017484	1	0.598303
712	Jan-93	3.00	0.002466270	0.012330	1	0.598970
713	Feb-93	2.93	0.002409478	0.005478	1	0.599436
714	Mar-93	2.95	0.002425708	0.025031	1	0.600000
715	Apr-93	2.87	0.002360771	-0.025508	0	0.600563
716	May-93	2.96	0.002433822	0.029431	1	0.599719
717	Jun-93	3.07	0.002523026	0.005120	1	0.600281
718	Jul-93	3.04	0.002498706	-0.000785	0	0.600840
719	Aug-93	3.02	0.002482489	0.039343	1	0.600000
720	Sep-93	2.95	0.002425708	0.000582	0	0.600569

Appendix 7
Moving Probability (Value Weighted Returns > T-bills)

	A	B	C	D	E	F
721	Oct-93	3.02	0.002482489	0.018029	1	0.599721
722	Nov-93	3.10	0.002547339	-0.017324	0	0.600279
723	Dec-93	3.06	0.002514920	0.019453	1	0.599444
724	Jan-94	2.98	0.002450047	0.031335	1	0.600000
725	Feb-94	3.25	0.002668809	-0.024080	0	0.600555
726	Mar-94	3.50	0.002870899	-0.045728	0	0.599723
727	Apr-94	3.68	0.003016127	0.009740	1	0.598893
728	May-94	4.14	0.003386217	0.009494	1	0.599448
729	Jun-94	4.14	0.003386217	-0.027376	0	0.600000
730	Jul-94	4.33	0.003538643	0.030407	1	0.599174
731	Aug-94	4.48	0.003658800	0.042838	1	0.599725
732	Sep-94	4.62	0.003770804	-0.018659	0	0.600275
733	Oct-94	4.95	0.004034271	0.014794	1	0.599451
734	Nov-94	5.29	0.004304928	-0.037076	0	0.600000
735	Dec-94	5.60	0.004551007	0.012767	1	0.599179
736	Jan-95	5.71	0.004638166	0.020610	1	0.599727
737	Feb-95	5.77	0.004685672	0.039660	1	0.600273
738	Mar-95	5.73	0.004654004	0.026969	1	0.600817
739	Apr-95	5.65	0.004590635	0.024891	1	0.601361
740	May-95	5.67	0.004606481	0.034144	1	0.601902
741	Jun-95	5.47	0.004447893	0.030868	1	0.602442
742	Jul-95	5.42	0.004408203	0.040687	1	0.602981
743	Aug-95	5.40	0.004392322	0.009365	1	0.603518
744	Sep-95	5.28	0.004296979	0.036386	1	0.604054
745	Oct-95	5.28	0.004296979	-0.011194	0	0.604588
746	Nov-95	5.36	0.004360552	0.042986	1	0.603774
747	Dec-95	5.14	0.004185619	0.015396	1	0.604307
748	Jan-96	5.00	0.004074124	0.028074	1	0.604839
749	Feb-96	4.83	0.003938553	0.016047	1	0.605369
750	Mar-96	4.96	0.004042243	0.011175	1	0.605898
751	Apr-96	4.95	0.004034271	0.025128	1	0.606426
752	May-96	5.02	0.004090060	0.026747	1	0.606952
753	Jun-96	5.09	0.004145815	-0.007670	0	0.607477
754	Jul-96	5.15	0.004193578	-0.053433	0	0.606667
755	Aug-96	5.05	0.004113959	0.032190	1	0.605859
756	Sep-96	5.09	0.004145815	0.052988	1	0.606383
757	Oct-96	4.99	0.004066155	0.013960	1	0.606906
758	Nov-96	5.03	0.004098027	0.065702	1	0.607427
759	Dec-96	4.91	0.004002376	-0.011357	0	0.607947
760	Jan-97	5.03	0.004098027	0.053048	1	0.607143
761	Feb-97	5.01	0.004082092	-0.000852	0	0.607662
762	Mar-97	5.14	0.004185619	-0.044410	0	0.606860
763	Apr-97	5.16	0.004201536	0.042506	1	0.606061
764	May-97	5.05	0.004113959	0.071255	1	0.606579
765	Jun-97	4.93	0.004018325	0.044175	1	0.607096
766	Jul-97	5.05	0.004113959	0.076227	1	0.607612
767	Aug-97	5.14	0.004185619	-0.036511	0	0.608126
768	Sep-97	4.95	0.004034271	0.058017	1	0.607330
769	Oct-97	4.97	0.004050214	-0.034077	0	0.607843
770	Nov-97	5.14	0.004185619	0.031135	1	0.607050
771	Dec-97	5.16	0.004201536	0.018313	1	0.607562

Appendix 8
Mean and Std.Deviation Assuming Lognormal Distribution
(Value Weighted and Equal Weighted Returns)

	A	B	C	D	E
1					
2	Combined nyse/amex and nanyse/amex and nasdaq indices between 251231 and 971231				
3					
4	Date	Value Weighted	Equal Weighted	Value Weighted	Equal Weighted
5	(YYMMDD)	Return	Return	ln(1+Return)	ln(1+Return)
6					
7	251231				
8	260130	0.000431	0.023188	0.000430907	0.022923243
9	260227	-0.032049	-0.053109	-0.032573813	-0.054571293
10	260331	-0.064579	-0.096893	-0.066758584	-0.101914239
11	260430	0.037256	0.031374	0.036578765	0.030891894
12	260528	0.014549	0.003600	0.014444179	0.003593536
13	260630	0.055532	0.051122	0.054044905	0.049858165
14	260731	0.028476	0.013156	0.028078095	0.013070211
15	260831	0.027706	0.027702	0.027329134	0.027325242
16	260930	0.002458	-0.006191	0.002454984	-0.006210244
17	261030	-0.027810	-0.031069	-0.028204020	-0.031561877
18	261130	0.027726	0.023622	0.027348595	0.023347318
19	261231	0.029064	0.025990	0.028649651	0.025658000
20	270131	0.001707	0.010515	0.001705545	0.010460102
21	270228	0.045159	0.056518	0.044169027	0.054978595
22	270331	0.006724	-0.019213	0.006701495	-0.019399968
23	270430	0.006786	0.008532	0.006763079	0.008495808
24	270531	0.057336	0.061841	0.055752537	0.060004194
25	270630	-0.020423	-0.019194	-0.020634433	-0.019380596
26	270730	0.075360	0.058547	0.072655489	0.056897213
27	270831	0.025511	0.003558	0.025191025	0.003551685
28	270930	0.046540	0.032746	0.045489485	0.032221274
29	271031	-0.039414	-0.038482	-0.040211764	-0.039241993
30	271130	0.069393	0.097357	0.067091198	0.092904561
31	271231	0.023042	0.030012	0.022780542	0.029570453
32	280131	-0.002745	0.032689	-0.002748774	0.032166080
33	280229	-0.013542	-0.022414	-0.013634529	-0.022669011
34	280331	0.089915	0.070867	0.086099712	0.068468601
35	280430	0.042957	0.086378	0.042059948	0.082849227
36	280531	0.019359	0.037816	0.019173998	0.037118505
37	280630	-0.045935	-0.068294	-0.047023476	-0.070737965
38	280731	0.010175	0.003578	0.010123583	0.003571614
39	280831	0.067800	0.057345	0.065600457	0.055761049
40	280929	0.031345	0.050093	0.030863776	0.048878732
41	281031	0.020883	0.016349	0.020667939	0.016216794
42	281130	0.120432	0.116480	0.113714325	0.110180879
43	281231	0.003901	-0.004928	0.003893411	-0.004940183
44	290131	0.053275	0.033116	0.051904358	0.032579478
45	290228	-0.000478	0.006416	-0.000478114	0.006395505
46	290328	-0.007992	-0.032220	-0.008024107	-0.032750490
47	290430	0.018010	0.014018	0.017849741	0.013920656
48	290531	-0.055446	-0.089496	-0.057042421	-0.093756987
49	290629	0.099427	0.073517	0.094789135	0.070940174
50	290731	0.045771	0.019354	0.044754412	0.019169093
51	290830	0.084071	0.026149	0.080723399	0.025812960
52	290930	-0.049003	-0.042569	-0.050244371	-0.043501623
53	291031	-0.196541	-0.212381	-0.218829122	-0.238740809
54	291127	-0.122265	-0.121530	-0.130410553	-0.129573521
55	291231	0.017811	-0.025507	0.017654243	-0.025837943
56	300131	0.055871	0.108523	0.054366019	0.103028499

Appendix 8
Mean and Std.Deviation Assuming Lognormal Distribution
(Value Weighted and Equal Weighted Returns)

	A	B	C	D	E
57	300228	0.026737	0.031987	0.026385812	0.031486070
58	300331	0.076761	0.102365	0.073957461	0.097457872
59	300430	-0.020583	-0.041406	-0.020797782	-0.042287651
60	300529	-0.012890	-0.038441	-0.012973797	-0.039199353
61	300630	-0.157490	-0.187408	-0.171369747	-0.207526140
62	300731	0.041089	0.039137	0.040267281	0.038390561
63	300829	0.003537	-0.018704	0.003530760	-0.018881132
64	300930	-0.124293	-0.149706	-0.132723719	-0.162173107
65	301031	-0.083715	-0.094972	-0.087427827	-0.099789397
66	301129	-0.026215	-0.024575	-0.026564739	-0.024882006
67	301231	-0.077141	-0.137330	-0.080278819	-0.147723048
68	310131	0.062279	0.141260	0.060416600	0.132132915
69	310228	0.108526	0.157572	0.103031205	0.146324708
70	310331	-0.064232	-0.063638	-0.066387696	-0.065753125
71	310430	-0.098385	-0.151230	-0.103567679	-0.163967036
72	310529	-0.132809	-0.140216	-0.142496027	-0.151074084
73	310630	0.137613	0.180091	0.128932208	0.165591554
74	310731	-0.063335	-0.070551	-0.065429585	-0.073163342
75	310831	0.000831	-0.018815	0.000830655	-0.018994254
76	310930	-0.290013	-0.312276	-0.342508619	-0.374367684
77	311031	0.080822	0.111163	0.077721863	0.105407215
78	311130	-0.089308	-0.082696	-0.093550529	-0.086316346
79	311231	-0.134515	-0.188422	-0.144465236	-0.208774778
80	320130	-0.010499	0.090269	-0.010554503	0.086424455
81	320229	0.057427	0.023571	0.055838599	0.023297494
82	320331	-0.109272	-0.117349	-0.115716173	-0.124825400
83	320430	-0.179969	-0.184639	-0.198413135	-0.204124319
84	320531	-0.206900	-0.199585	-0.231805962	-0.222624936
85	320630	-0.009229	0.046404	-0.009271851	0.045359524
86	320730	0.330888	0.432668	0.285846389	0.359538440
87	320831	0.364791	0.655073	0.311001303	0.503845117
88	320930	-0.030997	-0.053971	-0.031487571	-0.055482055
89	321031	-0.130379	-0.163908	-0.139697794	-0.179016624
90	321130	-0.054678	-0.073471	-0.056229669	-0.076309933
91	321231	0.044409	-0.036882	0.043451175	-0.037579341
92	330131	0.009721	0.039602	0.009674055	0.038837948
93	330228	-0.133144	-0.121133	-0.142882406	-0.129121701
94	330331	0.016823	0.059719	0.016683061	0.058003779
95	330429	0.382752	0.517847	0.324075716	0.417292883
96	330531	0.211063	0.603110	0.191498486	0.471945493
97	330630	0.133654	0.224552	0.125446044	0.202575063
98	330731	-0.095850	-0.092168	-0.100760003	-0.096695940
99	330831	0.122208	0.112933	0.115298173	0.106998873
100	330930	-0.105533	-0.149563	-0.111527269	-0.162004944
101	331031	-0.082208	-0.107623	-0.085784494	-0.113866590
102	331129	0.099766	0.068660	0.095097430	0.066405527
103	331230	0.020144	0.015002	0.019943794	0.014890583
104	340131	0.129657	0.317669	0.121914047	0.275864266
105	340228	-0.023533	0.010085	-0.023814323	0.010034486
106	340331	0.004781	0.007566	0.004769607	0.007537521
107	340430	-0.017990	0.001762	-0.018153787	0.001760449
108	340531	-0.070662	-0.106445	-0.073282774	-0.112547391
109	340630	0.025310	0.003478	0.024995006	0.003471966
110	340731	-0.108466	-0.185602	-0.114811704	-0.205306089
111	340831	0.059468	0.097822	0.057766895	0.093328217
112	340929	-0.002957	-0.010610	-0.002961381	-0.010666687

Appendix 8
Mean and Std.Deviation Assuming Lognormal Distribution
(Value Weighted and Equal Weighted Returns)

	A	B	C	D	E
113	341031	-0.019245	-0.020939	-0.019432596	-0.021161330
114	341130	0.084419	0.127128	0.081044360	0.119672804
115	341231	0.004037	0.014980	0.004028873	0.014868908
116	350131	-0.031839	-0.029931	-0.032356883	-0.030388076
117	350228	-0.019409	-0.054802	-0.019599828	-0.056360850
118	350330	-0.037016	-0.075761	-0.037718482	-0.078784583
119	350430	0.089403	0.102132	0.085629840	0.097246486
120	350531	0.034776	0.024729	0.034184978	0.024428187
121	350629	0.055065	0.040692	0.053602376	0.039885876
122	350731	0.073148	0.111438	0.070596385	0.105654672
123	350831	0.027451	0.080755	0.027080978	0.077659871
124	350930	0.023790	0.023866	0.023511427	0.023585659
125	351031	0.069926	0.080740	0.067589487	0.077645992
126	351130	0.051928	0.145103	0.050624671	0.135494589
127	351231	0.045614	0.059796	0.044604273	0.058076437
128	360131	0.065814	0.149369	0.063738826	0.139213096
129	360229	0.025957	0.046577	0.025625836	0.045524839
130	360331	0.008470	0.004800	0.008434331	0.004788517
131	360430	-0.078200	-0.121373	-0.081426999	-0.129394817
132	360529	0.050488	0.051895	0.049254818	0.050593299
133	360630	0.025948	-0.000578	0.025617063	-0.000578167
134	360731	0.063287	0.081854	0.061365054	0.078676236
135	360831	0.011155	0.022220	0.011093242	0.021976733
136	360930	0.014725	0.033850	0.014617640	0.033289698
137	361031	0.069674	0.064899	0.067353929	0.062879959
138	361130	0.034182	0.090848	0.033610776	0.086955375
139	361231	0.001195	0.030084	0.001194287	0.029640352
140	370130	0.032489	0.075777	0.031972392	0.073043191
141	370227	0.013250	0.025389	0.013162987	0.025072053
142	370331	-0.004573	-0.000037	-0.004583488	-0.000037001
143	370430	-0.074617	-0.101248	-0.077547573	-0.106748145
144	370528	-0.008410	-0.023833	-0.008445564	-0.024121601
145	370630	-0.040592	-0.076140	-0.041438851	-0.079194734
146	370731	0.084348	0.098243	0.080978885	0.093711630
147	370831	-0.045229	-0.051581	-0.046283758	-0.052958891
148	370930	-0.134840	-0.192223	-0.144840818	-0.213469249
149	371030	-0.094845	-0.102088	-0.099649079	-0.107683211
150	371130	-0.082975	-0.108609	-0.086620544	-0.114972115
151	371231	-0.040771	-0.099962	-0.041625442	-0.105318294
152	380131	0.008260	0.043053	0.008226073	0.042151990
153	380228	0.057480	0.059460	0.055888719	0.057759344
154	380331	-0.236216	-0.285612	-0.269470252	-0.336329047
155	380430	0.145390	0.216070	0.135745190	0.195624348
156	380531	-0.038843	-0.070239	-0.039617512	-0.072827715
157	380630	0.235427	0.306153	0.211416659	0.267086176
158	380730	0.071722	0.121239	0.069266701	0.114434324
159	380831	-0.026933	-0.062467	-0.027302340	-0.064503322
160	380930	0.008828	-0.015390	0.008789261	-0.015509655
161	381031	0.077175	0.145201	0.074341873	0.135580167
162	381130	-0.018170	-0.036190	-0.018337102	-0.036861099
163	381231	0.040450	0.032274	0.039653312	0.031764136
164	390131	-0.059668	-0.075517	-0.061522275	-0.078520617
165	390228	0.034562	0.041026	0.033978149	0.040206765
166	390331	-0.118963	-0.172152	-0.126655656	-0.188925716
167	390429	-0.002590	0.001386	-0.002593360	0.001385040
168	390531	0.068617	0.086120	0.066365289	0.082611713

Appendix 8
Mean and Std.Deviation Assuming Lognormal Distribution
(Value Weighted and Equal Weighted Returns)

	A	B	C	D	E
169	390630	-0.052998	-0.084583	-0.054454074	-0.088375580
170	390731	0.101109	0.134705	0.096317854	0.126372705
171	390831	-0.066033	-0.106282	-0.068314173	-0.112364990
172	390930	0.159534	0.392728	0.148018200	0.331264414
173	391031	-0.004183	-0.007336	-0.004191773	-0.007363041
174	391130	-0.036321	-0.080841	-0.036997027	-0.084296157
175	391230	0.030300	0.016323	0.029850022	0.016191212
176	400131	-0.024814	-0.018491	-0.025127057	-0.018664096
177	400229	0.014319	0.029486	0.014217451	0.029059649
178	400330	0.019001	0.026239	0.018822736	0.025900663
179	400430	0.001294	0.015530	0.001293164	0.015410644
180	400531	-0.220243	-0.268552	-0.248772946	-0.312729148
181	400629	0.066620	0.066308	0.064494770	0.064202215
182	400731	0.032315	0.036894	0.031803853	0.036229706
183	400831	0.023404	0.023333	0.023134326	0.023064947
184	400930	0.023219	0.037789	0.022953540	0.037092489
185	401031	0.029546	0.049223	0.029117928	0.048049890
186	401130	-0.016565	-0.002018	-0.016703734	-0.002020039
187	401231	0.007065	-0.017094	0.007040160	-0.017241789
188	410131	-0.040354	-0.006876	-0.041190813	-0.006899749
189	410228	-0.015118	-0.020483	-0.015233442	-0.020695686
190	410331	0.009870	0.016677	0.009821610	0.016539466
191	410430	-0.053011	-0.054966	-0.054467801	-0.056534373
192	410531	0.014334	0.009761	0.014232239	0.009713669
193	410630	0.058186	0.067057	0.056556121	0.064904392
194	410731	0.058581	0.128690	0.056929332	0.121057668
195	410830	0.000826	-0.005861	0.000825659	-0.005878243
196	410930	-0.007459	-0.021119	-0.007486957	-0.021345196
197	411031	-0.051514	-0.062217	-0.052888250	-0.064236700
198	411129	-0.019338	-0.033320	-0.019527425	-0.033887759
199	411231	-0.046332	-0.082162	-0.047439676	-0.085734375
200	420131	0.005752	0.130737	0.005735520	0.122869633
201	420228	-0.022771	-0.016513	-0.023034263	-0.016650859
202	420331	-0.065788	-0.052209	-0.068051886	-0.053621265
203	420430	-0.043131	-0.044369	-0.044088783	-0.045383424
204	420529	0.061413	0.030448	0.059601039	0.029993659
205	420630	0.025228	0.023985	0.024915027	0.023701878
206	420731	0.034788	0.045939	0.034196575	0.044915047
207	420831	0.018767	0.027825	0.018593073	0.027444919
208	420930	0.026204	0.048439	0.025866557	0.047302391
209	421031	0.067833	0.101545	0.065631361	0.096713740
210	421130	0.001819	-0.013671	0.001817348	-0.013765309
211	421231	0.049310	0.035660	0.048132805	0.035038905
212	430130	0.075026	0.167345	0.072344847	0.154731939
213	430227	0.059913	0.133544	0.058186829	0.125349008
214	430331	0.061395	0.112718	0.059584081	0.106805671
215	430430	0.006698	0.035419	0.006675668	0.034806176
216	430529	0.056962	0.084394	0.055398755	0.081021306
217	430630	0.016784	0.010798	0.016644705	0.010740118
218	430731	-0.046023	-0.063956	-0.047115717	-0.066092795
219	430831	0.012894	0.003063	0.012811580	0.003058319
220	430930	0.024130	0.034956	0.023843472	0.034358914
221	431030	-0.012327	-0.003973	-0.012403608	-0.003980913
222	431130	-0.058127	-0.088354	-0.059884833	-0.092503522
223	431231	0.063087	0.098474	0.061176940	0.093921944
224	440131	0.018126	0.045564	0.017963683	0.044556453

Appendix 8
Mean and Std.Deviation Assuming Lognormal Distribution
(Value Weighted and Equal Weighted Returns)

	A	B	C	D	E
225	440229	0.004166	0.013878	0.004157346	0.013782582
226	440331	0.024130	0.041304	0.023843472	0.040473774
227	440429	-0.017288	-0.028921	-0.017439182	-0.029347455
228	440531	0.051940	0.066125	0.050636078	0.064030580
229	440630	0.056672	0.105428	0.055124347	0.100232590
230	440731	-0.015014	-0.012595	-0.015127851	-0.012674989
231	440831	0.015220	0.029196	0.015105338	0.028777915
232	440930	0.000314	0.000177	0.000313951	0.000176984
233	441031	0.002778	0.001415	0.002774148	0.001414000
234	441130	0.015399	0.022945	0.015281639	0.022685722
235	441230	0.042124	0.069483	0.041260938	0.067175354
236	450131	0.018266	0.042912	0.018101181	0.042016800
237	450228	0.065229	0.086519	0.063189800	0.082979008
238	450331	-0.038993	-0.056651	-0.039773586	-0.058318969
239	450430	0.077808	0.088953	0.074929349	0.085216684
240	450531	0.018436	0.029628	0.018268117	0.029197572
241	450630	0.003882	0.036966	0.003874484	0.036299142
242	450731	-0.022247	-0.035179	-0.022498197	-0.035812687
243	450831	0.060615	0.065361	0.058848929	0.063313709
244	450929	0.047955	0.062674	0.046840646	0.060788373
245	451031	0.039148	0.064646	0.038401147	0.062642350
246	451130	0.054569	0.097799	0.053132153	0.093307266
247	451231	0.011363	0.023899	0.011298926	0.023617889
248	460131	0.061834	0.094391	0.059997602	0.090198044
249	460228	-0.057580	-0.066914	-0.059304244	-0.069257907
250	460330	0.059506	0.058212	0.057802762	0.056580691
251	460430	0.040609	0.051697	0.039806119	0.050405050
252	460531	0.041604	0.054726	0.040761833	0.053281018
253	460628	-0.039062	-0.048994	-0.039845388	-0.050234907
254	460731	-0.025828	-0.040917	-0.026167400	-0.041777659
255	460830	-0.064133	-0.075395	-0.066281907	-0.078388660
256	460930	-0.100862	-0.135938	-0.106318752	-0.146110753
257	461031	-0.014064	-0.011594	-0.014163835	-0.011661734
258	461130	0.002492	-0.002688	0.002488900	-0.002691619
259	461231	0.050590	0.046884	0.049351911	0.045818133
260	470131	0.015135	0.030258	0.015021609	0.029809256
261	470228	-0.011755	-0.007465	-0.011824636	-0.007493003
262	470331	-0.016868	-0.029987	-0.017011885	-0.030445806
263	470430	-0.047786	-0.081542	-0.048965480	-0.085059102
264	470529	-0.010132	-0.037234	-0.010183678	-0.037944887
265	470630	0.053645	0.056963	0.052255581	0.055399702
266	470731	0.041413	0.061879	0.040578445	0.060039980
267	470829	-0.017547	-0.017199	-0.017702774	-0.017348621
268	470930	-0.004474	0.005749	-0.004484038	0.005732538
269	471031	0.024661	0.033143	0.024361826	0.032605612
270	471129	-0.018095	-0.029056	-0.018260717	-0.029486485
271	471231	0.029869	0.021860	0.029431610	0.021624496
272	480131	-0.037019	-0.015898	-0.037721597	-0.016025729
273	480228	-0.043558	-0.059801	-0.044535130	-0.061663724
274	480331	0.082635	0.096071	0.079397884	0.091731967
275	480430	0.037713	0.040865	0.037019253	0.040052098
276	480528	0.074452	0.087118	0.071810764	0.083530158
277	480630	0.000000	-0.012370	0.000000000	-0.012447145
278	480730	-0.050405	-0.053724	-0.051719701	-0.055220998
279	480831	0.003858	-0.001616	0.003850577	-0.001617307
280	480930	-0.029410	-0.042755	-0.029851145	-0.043695912

Appendix B
Mean and Std.Deviation Assuming Lognormal Distribution
(Value Weighted and Equal Weighted Returns)

	A	B	C	D	E
281	481030	0.059755	0.052888	0.058037749	0.051536865
282	481130	-0.090552	-0.106244	-0.094917457	-0.112322472
283	481231	0.032116	0.014177	0.031611064	0.014077446
284	490131	0.002959	0.017924	0.002954631	0.017765259
285	490228	-0.028716	-0.041333	-0.029136371	-0.042211501
286	490331	0.040833	0.058956	0.040021354	0.057283517
287	490430	-0.018052	-0.031821	-0.018216925	-0.032338291
288	490531	-0.027347	-0.042723	-0.027727889	-0.043662483
289	490630	0.003438	-0.007950	0.003432104	-0.007981770
290	490729	0.055466	0.062310	0.053982376	0.060445782
291	490831	0.026510	0.025764	0.026164699	0.025437701
292	490930	0.032073	0.043705	0.031569401	0.042776882
293	491031	0.031556	0.039276	0.031068342	0.038524317
294	491130	0.019216	0.010454	0.019033704	0.010399735
295	491231	0.052606	0.069966	0.051268994	0.067626872
296	500131	0.016316	0.040102	0.016184324	0.039318785
297	500228	0.014517	0.015658	0.014412637	0.015536678
298	500331	0.012156	-0.001788	0.012082709	-0.001789600
299	500429	0.040147	0.047735	0.039362049	0.046630691
300	500531	0.042938	0.032819	0.042041730	0.032291957
301	500630	-0.056538	-0.074923	-0.058199191	-0.077878302
302	500731	0.015950	0.050857	0.015824135	0.049606022
303	500831	0.050350	0.052352	0.049123442	0.051027659
304	500929	0.048811	0.054639	0.047657142	0.053198528
305	501031	-0.001401	-0.005599	-0.001401982	-0.005614733
306	501130	0.029023	0.032434	0.028609808	0.031919121
307	501230	0.057189	0.083956	0.055613499	0.080617312
308	510131	0.057915	0.076381	0.056299990	0.073604488
309	510228	0.015151	0.011537	0.015037370	0.011470956
310	510331	-0.021026	-0.033665	-0.021250195	-0.034244714
311	510430	0.049745	0.040659	0.048547278	0.039854166
312	510531	-0.022567	-0.025532	-0.022825532	-0.025863598
313	510629	-0.025210	-0.044952	-0.025533216	-0.045993678
314	510731	0.070916	0.063124	0.068514357	0.061211744
315	510831	0.045071	0.047509	0.044084826	0.046414965
316	510928	0.008989	0.023307	0.008948839	0.023039540
317	511031	-0.022363	-0.023429	-0.022616843	-0.023707823
318	511130	0.006005	0.007421	0.005987042	0.007393600
319	511231	0.034946	0.015198	0.034349251	0.015083667
320	520131	0.017031	0.017501	0.016887598	0.017349621
321	520229	-0.024816	-0.020726	-0.025129108	-0.020943798
322	520331	0.045415	0.029208	0.044413936	0.028789574
323	520430	-0.048719	-0.044818	-0.049945782	-0.045853381
324	520529	0.032570	0.023888	0.032050840	0.023607146
325	520630	0.039376	0.031099	0.038620533	0.030625224
326	520731	0.011904	0.011304	0.011833705	0.011240587
327	520829	-0.006970	-0.000286	-0.006994404	-0.000286041
328	520930	-0.019220	-0.015501	-0.019407106	-0.015622397
329	521031	-0.005267	-0.011474	-0.005280920	-0.011540334
330	521128	0.058960	0.055663	0.057287294	0.054169006
331	521231	0.031256	0.022709	0.030777477	0.022454989
332	530130	-0.001666	0.024362	-0.001667389	0.024069980
333	530227	-0.001633	0.011994	-0.001634335	0.011922642
334	530331	-0.013344	-0.010283	-0.013433831	-0.010336235
335	530430	-0.027384	-0.024130	-0.027765930	-0.024425898
336	530529	0.006736	0.005783	0.006713415	0.005766343

Appendix B
Mean and Std.Deviation Assuming Lognormal Distribution
(Value Weighted and Equal Weighted Returns)

	A	B	C	D	E
337	530630	-0.016281	-0.031458	-0.016414992	-0.031963431
338	530731	0.025195	0.017600	0.024882838	0.017446914
339	530831	-0.043995	-0.051682	-0.044992136	-0.053065390
340	530930	0.003065	-0.011163	0.003060312	-0.011225774
341	531030	0.047035	0.038012	0.045962360	0.037307345
342	531130	0.028259	0.021337	0.027867081	0.021112553
343	531231	0.000668	-0.015614	0.000667777	-0.015737182
344	540129	0.050581	0.071321	0.049343344	0.068892466
345	540226	0.019202	0.013861	0.019019968	0.013765815
346	540331	0.037774	0.029353	0.037078035	0.028930450
347	540430	0.042626	0.016388	0.041742531	0.016255166
348	540528	0.031362	0.043192	0.030880259	0.042285243
349	540630	0.011370	0.012067	0.011305847	0.011994774
350	540730	0.050421	0.072137	0.049191036	0.069653853
351	540831	-0.022528	-0.009242	-0.022785632	-0.009284972
352	540930	0.064310	0.044130	0.062326702	0.043184003
353	541029	-0.016237	-0.006628	-0.016370265	-0.006650063
354	541130	0.095950	0.092005	0.091621567	0.088015456
355	541231	0.055287	0.088119	0.053812768	0.084450517
356	550131	0.007071	0.014081	0.007046118	0.013982784
357	550228	0.031377	0.042937	0.030894803	0.042040772
358	550331	-0.001187	0.000939	-0.001187705	0.000938559
359	550429	0.032271	0.022228	0.031761229	0.021984559
360	550531	0.011918	0.008069	0.011847540	0.008036620
361	550630	0.065856	0.034707	0.063778232	0.034118295
362	550729	0.020050	0.007847	0.019851646	0.007816372
363	550831	0.004367	0.005689	0.004357492	0.005672879
364	550930	-0.002247	-0.007778	-0.002249528	-0.007808406
365	551031	-0.025694	-0.017728	-0.026029856	-0.017887023
366	551130	0.071576	0.055276	0.069130462	0.053802344
367	551230	0.016534	0.023036	0.016398802	0.022774677
368	560131	-0.028041	-0.020721	-0.028441656	-0.020938692
369	560229	0.039581	0.033669	0.038817747	0.033114609
370	560329	0.068140	0.051392	0.065918818	0.050115000
371	560430	0.005029	0.003773	0.005016397	0.003765900
372	560531	-0.049621	-0.039689	-0.050894427	-0.040498089
373	560629	0.037353	0.021538	0.036672276	0.021309335
374	560731	0.051023	0.039859	0.049763976	0.039085127
375	560831	-0.028948	-0.017285	-0.029375259	-0.017436130
376	560928	-0.049928	-0.036113	-0.051217508	-0.036781211
377	561031	0.007153	0.006800	0.007127539	0.006776984
378	561130	0.007393	0.010743	0.007365806	0.010685704
379	561231	0.030407	0.017636	0.029953870	0.017482290
380	570131	-0.031261	0.003465	-0.031760053	0.003459011
381	570228	-0.018445	-0.023077	-0.018617230	-0.023347443
382	570329	0.023694	0.022234	0.023417654	0.021990428
383	570430	0.044984	0.025821	0.044001574	0.025493268
384	570531	0.035899	0.021544	0.035269649	0.021315208
385	570628	-0.005829	-0.006752	-0.005846055	-0.006774898
386	570731	0.009607	0.005961	0.009561146	0.005943304
387	570830	-0.049625	-0.049852	-0.050898635	-0.051137517
388	570930	-0.057748	-0.052206	-0.059482524	-0.053618100
389	571031	-0.041456	-0.066185	-0.042339812	-0.068476933
390	571129	0.024297	0.020887	0.024006524	0.020671857
391	571231	-0.037999	-0.048891	-0.038739789	-0.050126607
392	580131	0.050093	0.106346	0.048878732	0.101062693

Appendix 8
Mean and Std.Deviation Assuming Lognormal Distribution
(Value Weighted and Equal Weighted Returns)

	A	B	C	D	E
393	580228	-0.013997	-0.011798	-0.014095882	-0.011868149
394	580331	0.033490	0.035981	0.032941424	0.035348804
395	580430	0.030427	0.030149	0.029973279	0.029703452
396	580529	0.024628	0.039282	0.024329620	0.038530090
397	580630	0.029478	0.031810	0.029051878	0.031314542
398	580731	0.045035	0.054290	0.044050378	0.052867555
399	580829	0.018718	0.029916	0.018544974	0.029477246
400	580930	0.049300	0.052458	0.048123275	0.051128381
401	581031	0.026994	0.032455	0.026636089	0.031939461
402	581128	0.030391	0.042046	0.029938342	0.041186088
403	581231	0.053243	0.039062	0.051873976	0.038318383
404	590130	0.009579	0.041488	0.009533412	0.040650460
405	590227	0.011203	0.027492	0.011140711	0.027120881
406	590331	0.004896	0.012793	0.004884054	0.012711861
407	590430	0.039156	0.025591	0.038408845	0.025269032
408	590529	0.020046	0.007587	0.019847724	0.007558363
409	590630	0.001206	0.004492	0.001205273	0.004481941
410	590731	0.034271	0.030152	0.033696831	0.029706364
411	590831	-0.011601	-0.015067	-0.011668817	-0.015181660
412	590930	-0.044757	-0.045901	-0.045789521	-0.046987839
413	591030	0.015253	0.023218	0.015137843	0.022952563
414	591130	0.018226	0.014870	0.018061897	0.014760525
415	591231	0.029019	0.021240	0.028605921	0.021017575
416	600129	-0.067264	-0.039103	-0.069633076	-0.039888056
417	600229	0.012459	0.008127	0.012382025	0.008094154
418	600331	-0.012115	-0.024466	-0.012188985	-0.024770266
419	600429	-0.015449	-0.019194	-0.015569579	-0.019380596
420	600531	0.033281	0.025325	0.032739176	0.025009636
421	600630	0.023131	0.021360	0.022867534	0.021135073
422	600729	-0.020766	-0.018074	-0.020984646	-0.018239330
423	600831	0.030049	0.034957	0.029806374	0.034359880
424	600930	-0.058107	-0.058797	-0.059863599	-0.060596435
425	601031	-0.004575	-0.022993	-0.004585497	-0.023261462
426	601130	0.047922	0.046582	0.046809156	0.045529616
427	601230	0.048077	0.037387	0.046957056	0.036705052
428	610131	0.064465	0.082388	0.062472326	0.079169711
429	610228	0.037091	0.059865	0.036419679	0.058141542
430	610330	0.030962	0.050442	0.030492347	0.049211028
431	610428	0.005852	0.009411	0.005834944	0.009366992
432	610531	0.025904	0.041767	0.025574175	0.040918310
433	610630	-0.028474	-0.042383	-0.028887248	-0.043307372
434	610731	0.030708	0.011543	0.030245945	0.011476888
435	610831	0.027137	0.021117	0.026775320	0.020897126
436	610929	-0.018754	-0.029770	-0.018932086	-0.030222122
437	611031	0.027114	0.021105	0.026752928	0.020885374
438	611130	0.046075	0.046300	0.045045065	0.045260131
439	611229	0.000667	-0.003514	0.000666778	-0.003520189
440	620131	-0.036341	-0.007893	-0.037017781	-0.007924315
441	620228	0.019038	0.015444	0.018859045	0.015325955
442	620330	-0.005640	-0.005939	-0.005655965	-0.005956706
443	620430	-0.062734	-0.068055	-0.064788152	-0.070481479
444	620531	-0.084534	-0.098045	-0.088322054	-0.103190649
445	620629	-0.082724	-0.084971	-0.086346871	-0.088799520
446	620731	0.066076	0.063777	0.063984618	0.061825782
447	620831	0.023381	0.037340	0.023111852	0.036659744
448	620928	-0.050120	-0.063898	-0.051419618	-0.066030834

Appendix 8
Mean and Std.Deviation Assuming Lognormal Distribution
(Value Weighted and Equal Weighted Returns)

	A	B	C	D	E
449	621031	0.002122	-0.039690	0.002119752	-0.040499130
450	621130	0.110113	0.121084	0.104461812	0.114296074
451	621231	0.011852	-0.025598	0.011782315	-0.025931329
452	630131	0.051843	0.089144	0.050543864	0.085392067
453	630228	-0.021927	-0.014477	-0.022170970	-0.014582814
454	630329	0.032926	0.012028	0.032395552	0.011956238
455	630430	0.047437	0.026890	0.046346228	0.026534817
456	630531	0.020033	0.032301	0.019834980	0.031790291
457	630628	-0.018028	-0.010382	-0.018192484	-0.010436269
458	630731	-0.001699	-0.006304	-0.001700445	-0.006323954
459	630830	0.052685	0.042305	0.051344043	0.041434607
460	630930	-0.011904	-0.010373	-0.011975420	-0.010427175
461	631031	0.027730	0.012209	0.027352487	0.012135071
462	631129	-0.005551	-0.016140	-0.005566464	-0.016271668
463	631231	0.021737	-0.004225	0.021504120	-0.004233951
464	640131	0.025795	0.032062	0.025467922	0.031558743
465	640228	0.017170	0.025173	0.017024261	0.024861379
466	640331	0.017651	0.025510	0.017497030	0.025190050
467	640430	0.004622	0.001004	0.004611351	0.001003496
468	640528	0.017412	0.007537	0.017262148	0.007508739
469	640630	0.015080	0.010411	0.014967427	0.010357179
470	640731	0.020128	0.030161	0.019928110	0.029715101
471	640831	-0.011268	-0.006038	-0.011331965	-0.006056302
472	640930	0.030462	0.038260	0.030007245	0.037546235
473	641030	0.008859	0.018821	0.008819989	0.018646076
474	641130	0.003090	-0.000516	0.003085236	-0.000516133
475	641231	0.003714	-0.012365	0.003707120	-0.012442083
476	650129	0.038648	0.071403	0.037919867	0.068969005
477	650226	0.006951	0.032325	0.006926953	0.031813540
478	650331	-0.009732	0.015410	-0.009779665	0.015292472
479	650430	0.033639	0.041560	0.033085586	0.040719589
480	650528	-0.004347	-0.005845	-0.004356476	-0.005862149
481	650630	-0.051859	-0.083718	-0.053252054	-0.087431101
482	650730	0.016723	0.028633	0.016584710	0.028230736
483	650831	0.030879	0.041844	0.030411836	0.040992220
484	650930	0.031935	0.027420	0.031435681	0.027050805
485	651029	0.029282	0.058679	0.028861472	0.057021905
486	651130	0.003047	0.046543	0.003042367	0.045492351
487	651231	0.013540	0.042960	0.013449153	0.042062824
488			MEAN =	0.007772414	0.010148881
489			STDEV =	0.061905194	0.082707088

Appendix 9
Assuming Lognormal Distribution Calculate Probability Equities Exceed Cash

	A	B	C	D	E	F	G
1						Value Weighted	Equal Weighted
2					MEAN =	0.093269	0.121787
3					STDEV =	0.214446	0.286506
4							
5	Date	3 Month			V.W		E.W
6	(Month-Year)	T-Bill Rate	d	Z	Pr stock > t-bill	Z	Pr stock > t-bill
7							
8	Jan-66	4.59	0.003747	-0.068364	0.527252	-0.061717	0.524606
9	Feb-66	4.65	0.003795	-0.068029	0.527119	-0.061466	0.524506
10	Mar-66	4.59	0.003747	-0.068364	0.527252	-0.061717	0.524606
11	Apr-66	4.82	0.003771	-0.068197	0.527186	-0.061592	0.524556
12	May-66	4.64	0.003787	-0.068085	0.527141	-0.061508	0.524523
13	Jun-66	4.50	0.003675	-0.068868	0.527453	-0.062094	0.524756
14	Jul-66	4.80	0.003915	-0.067192	0.526786	-0.060840	0.524257
15	Aug-66	4.96	0.004042	-0.066300	0.526431	-0.060172	0.523991
16	Sep-66	5.37	0.004368	-0.064021	0.525523	-0.058466	0.523311
17	Oct-66	5.35	0.004353	-0.064132	0.525567	-0.058549	0.523345
18	Nov-66	5.32	0.004329	-0.064298	0.525634	-0.058674	0.523394
19	Dec-66	4.96	0.004042	-0.066300	0.526431	-0.060172	0.523991
20	Jan-67	4.72	0.003851	-0.067638	0.526963	-0.061174	0.524390
21	Feb-67	4.56	0.003723	-0.068532	0.527319	-0.061843	0.524656
22	Mar-67	4.26	0.003483	-0.070212	0.527988	-0.063100	0.525157
23	Apr-67	3.84	0.003145	-0.072572	0.528927	-0.064867	0.525860
24	May-67	3.80	0.002952	-0.073924	0.529485	-0.065879	0.526263
25	Jun-67	3.54	0.002903	-0.074263	0.529600	-0.066133	0.526364
26	Jul-67	4.21	0.003442	-0.070492	0.528099	-0.063310	0.525240
27	Aug-67	4.27	0.003491	-0.070156	0.527965	-0.063058	0.525140
28	Sep-67	4.42	0.003611	-0.069315	0.527631	-0.062429	0.524890
29	Oct-67	4.56	0.003723	-0.068532	0.527319	-0.061843	0.524656
30	Nov-67	4.73	0.003859	-0.067582	0.526941	-0.061132	0.524373
31	Dec-67	4.97	0.004050	-0.066244	0.526408	-0.060130	0.523974
32	Jan-68	5.00	0.004074	-0.066077	0.526342	-0.060005	0.523924
33	Feb-68	4.98	0.004058	-0.066188	0.526386	-0.060089	0.523958
34	Mar-68	5.17	0.004209	-0.065131	0.525965	-0.059298	0.523643
35	Apr-68	5.38	0.004376	-0.063965	0.525501	-0.058425	0.523295
36	May-68	5.66	0.004599	-0.062414	0.524883	-0.057264	0.522832
37	Jun-68	5.52	0.004488	-0.063189	0.525192	-0.057844	0.523084
38	Jul-68	5.31	0.004321	-0.064354	0.525656	-0.058715	0.523411
39	Aug-68	5.09	0.004146	-0.065578	0.526142	-0.059631	0.523775
40	Sep-68	5.19	0.004225	-0.065020	0.525921	-0.059214	0.523609
41	Oct-68	5.35	0.004353	-0.064132	0.525567	-0.058549	0.523345
42	Nov-68	5.45	0.004432	-0.063577	0.525346	-0.058134	0.523179
43	Dec-68	5.96	0.004836	-0.060756	0.524223	-0.056023	0.522338
44	Jan-69	6.14	0.004978	-0.059764	0.523828	-0.055280	0.522042
45	Feb-69	6.12	0.004962	-0.059874	0.523872	-0.055363	0.522075
46	Mar-69	6.02	0.004883	-0.060425	0.524092	-0.055775	0.522240
47	Apr-69	6.11	0.004954	-0.059929	0.523894	-0.055404	0.522092
48	May-69	6.04	0.004899	-0.060315	0.524048	-0.055693	0.522207
49	Jun-69	6.44	0.005214	-0.058114	0.523171	-0.054045	0.521550
50	Jul-69	7.00	0.005854	-0.055046	0.521949	-0.051749	0.520636
51	Aug-69	6.98	0.005638	-0.055155	0.521993	-0.051831	0.520668
52	Sep-69	7.09	0.005725	-0.054555	0.521753	-0.051381	0.520469
53	Oct-69	7.00	0.005654	-0.055046	0.521949	-0.051749	0.520636
54	Nov-69	7.24	0.005842	-0.053736	0.521427	-0.050769	0.520245
55	Dec-69	7.82	0.006294	-0.050583	0.520171	-0.048408	0.519305
56	Jan-70	7.87	0.006333	-0.050312	0.520063	-0.048205	0.519224
57	Feb-70	7.13	0.005756	-0.054336	0.521666	-0.051218	0.520424
58	Mar-70	6.63	0.005364	-0.057071	0.522756	-0.053265	0.521240
59	Apr-70	6.51	0.005270	-0.057729	0.523018	-0.053757	0.521436
60	May-70	6.84	0.005529	-0.055921	0.522298	-0.052404	0.520897
61	Jun-70	6.68	0.005403	-0.056797	0.522647	-0.053060	0.521158
62	Jul-70	6.45	0.005222	-0.058059	0.523149	-0.054004	0.521534
63	Aug-70	6.41	0.005191	-0.058279	0.523237	-0.054168	0.521600
64	Sep-70	6.12	0.004962	-0.059874	0.523872	-0.055363	0.522075
65	Oct-70	5.91	0.004798	-0.061032	0.524333	-0.056229	0.522421
66	Nov-70	5.28	0.004297	-0.064520	0.525722	-0.058840	0.523460
67	Dec-70	4.87	0.003970	-0.066801	0.526630	-0.060548	0.524140
68	Jan-71	4.44	0.003627	-0.069203	0.527586	-0.062345	0.524856

Appendix 9
Assuming Lognormal Distribution Calculate Probability Equities Exceed Cash

	A	B	C	D	E	F	G
69	Feb-71	3.70	0.003032	-0.073360	0.529240	-0.065457	0.526095
70	Mar-71	3.38	0.002774	-0.075167	0.529959	-0.066809	0.526633
71	Apr-71	3.86	0.003181	-0.072459	0.528882	-0.064782	0.525826
72	May-71	4.14	0.003386	-0.070885	0.528255	-0.063604	0.525357
73	Jun-71	4.75	0.003875	-0.067471	0.526897	-0.061049	0.524340
74	Jul-71	5.40	0.004392	-0.063854	0.525457	-0.058342	0.523262
75	Aug-71	4.94	0.004026	-0.066411	0.526475	-0.060256	0.524024
76	Sep-71	4.69	0.003827	-0.067806	0.527030	-0.061299	0.524440
77	Oct-71	4.46	0.003643	-0.069091	0.527542	-0.062262	0.524823
78	Nov-71	4.22	0.003450	-0.070436	0.528077	-0.063268	0.525224
79	Dec-71	4.01	0.003282	-0.071615	0.528546	-0.064151	0.525575
80	Jan-72	3.38	0.002774	-0.075167	0.529959	-0.066809	0.526633
81	Feb-72	3.20	0.002628	-0.076186	0.530365	-0.067572	0.526937
82	Mar-72	3.73	0.003056	-0.073191	0.529173	-0.065330	0.526045
83	Apr-72	3.71	0.003040	-0.073304	0.529218	-0.065415	0.526078
84	May-72	3.69	0.003024	-0.073417	0.529263	-0.065499	0.526112
85	Jun-72	3.91	0.003201	-0.072178	0.528770	-0.064572	0.525743
86	Jul-72	3.98	0.003258	-0.071784	0.528613	-0.064277	0.525625
87	Aug-72	4.02	0.003290	-0.071559	0.528524	-0.064109	0.525558
88	Sep-72	4.66	0.003803	-0.067973	0.527097	-0.061425	0.524490
89	Oct-72	4.74	0.003867	-0.067526	0.526919	-0.061090	0.524358
90	Nov-72	4.78	0.003899	-0.067303	0.526830	-0.060923	0.524290
91	Dec-72	5.07	0.004130	-0.065687	0.526187	-0.059714	0.523808
92	Jan-73	5.41	0.004400	-0.063799	0.525435	-0.058300	0.523245
93	Feb-73	5.60	0.004551	-0.062746	0.525016	-0.057512	0.522931
94	Mar-73	6.08	0.004939	-0.060039	0.523938	-0.055486	0.522125
95	Apr-73	6.26	0.005073	-0.059103	0.523565	-0.054788	0.521845
96	May-73	6.36	0.005152	-0.058553	0.523348	-0.054374	0.521682
97	Jun-73	7.19	0.005803	-0.054009	0.521536	-0.050973	0.520326
98	Jul-73	8.01	0.006442	-0.049554	0.519761	-0.047638	0.518998
99	Aug-73	8.67	0.006953	-0.045992	0.518342	-0.044972	0.517935
100	Sep-73	8.29	0.006659	-0.048040	0.519158	-0.046505	0.518546
101	Oct-73	7.22	0.005826	-0.053845	0.521471	-0.050850	0.520278
102	Nov-73	7.83	0.006302	-0.050529	0.520150	-0.048368	0.519288
103	Dec-73	7.45	0.006006	-0.052593	0.520972	-0.049912	0.519904
104	Jan-74	7.77	0.006255	-0.050854	0.520279	-0.048611	0.519366
105	Feb-74	7.12	0.005748	-0.054391	0.521688	-0.051258	0.520440
106	Mar-74	7.96	0.006403	-0.049824	0.519869	-0.047840	0.519078
107	Apr-74	8.33	0.006890	-0.047824	0.519072	-0.046343	0.518482
108	May-74	8.23	0.006812	-0.048364	0.519287	-0.046747	0.518643
109	Jun-74	7.90	0.006356	-0.050149	0.519998	-0.048084	0.519175
110	Jul-74	7.55	0.006084	-0.052049	0.520755	-0.049505	0.519742
111	Aug-74	8.96	0.007177	-0.044434	0.517721	-0.043806	0.517471
112	Sep-74	8.06	0.006481	-0.048283	0.519653	-0.047435	0.518917
113	Oct-74	7.48	0.006014	-0.052538	0.520950	-0.049872	0.519688
114	Nov-74	7.47	0.006022	-0.052484	0.520928	-0.049831	0.519672
115	Dec-74	7.15	0.005772	-0.054227	0.521623	-0.051138	0.520391
116	Jan-75	8.28	0.005073	-0.059103	0.523565	-0.054788	0.521845
117	Feb-75	5.50	0.004472	-0.063300	0.525236	-0.057927	0.523097
118	Mar-75	5.49	0.004464	-0.063355	0.525258	-0.057968	0.523113
119	Apr-75	5.81	0.004559	-0.062690	0.524994	-0.057471	0.522915
120	May-75	5.23	0.004257	-0.064798	0.525833	-0.059048	0.523543
121	Jun-75	5.34	0.004345	-0.064187	0.525589	-0.058591	0.523361
122	Jul-75	6.13	0.004970	-0.059819	0.523850	-0.055321	0.522059
123	Aug-75	6.44	0.005214	-0.058114	0.523171	-0.054045	0.521550
124	Sep-75	6.42	0.005199	-0.058224	0.523215	-0.054127	0.521583
125	Oct-75	5.96	0.004836	-0.060756	0.524223	-0.056023	0.522338
126	Nov-75	5.48	0.004456	-0.063411	0.525280	-0.058010	0.523130
127	Dec-75	5.44	0.004424	-0.063632	0.525369	-0.058176	0.523196
128	Jan-76	4.87	0.003970	-0.066801	0.526630	-0.060548	0.524140
129	Feb-76	4.88	0.003978	-0.066746	0.526608	-0.060506	0.524124
130	Mar-76	5.00	0.004074	-0.066077	0.526342	-0.060005	0.523924
131	Apr-76	4.86	0.003962	-0.066857	0.526652	-0.060589	0.524157
132	May-76	5.20	0.004233	-0.064865	0.525899	-0.059173	0.523593
133	Jun-76	5.41	0.004400	-0.063799	0.525435	-0.058300	0.523245
134	Jul-76	5.23	0.004257	-0.064798	0.525833	-0.059048	0.523543
135	Aug-76	5.14	0.004186	-0.065298	0.526032	-0.059422	0.523692
136	Sep-76	5.08	0.004138	-0.065632	0.526165	-0.059672	0.523792

Appendix 9
Assuming Lognormal Distribution Calculate Probability Equities Exceed Cash

	A	B	C	D	E	F	G
137	Oct-76	4.92	0.004010	-0.068523	0.526519	-0.060339	0.524057
138	Nov-76	4.75	0.003875	-0.067471	0.526897	-0.061049	0.524340
139	Dec-76	4.35	0.003555	-0.069707	0.527787	-0.062723	0.525006
140	Jan-77	4.62	0.003771	-0.068197	0.527186	-0.061592	0.524556
141	Feb-77	4.67	0.003811	-0.067917	0.527074	-0.061383	0.524473
142	Mar-77	4.60	0.003755	-0.068308	0.527230	-0.061676	0.524589
143	Apr-77	4.54	0.003707	-0.068644	0.527364	-0.061927	0.524689
144	May-77	4.96	0.004042	-0.066300	0.526431	-0.060172	0.523991
145	Jun-77	5.02	0.004090	-0.065966	0.526298	-0.059922	0.523891
146	Jul-77	5.19	0.004225	-0.065020	0.525921	-0.059214	0.523809
147	Aug-77	5.49	0.004464	-0.063355	0.525258	-0.057968	0.523113
148	Sep-77	5.81	0.004717	-0.061584	0.524553	-0.056643	0.522585
149	Oct-77	6.16	0.004994	-0.059654	0.523784	-0.055198	0.522010
150	Nov-77	6.10	0.004947	-0.059984	0.523916	-0.055445	0.522108
151	Dec-77	6.07	0.004923	-0.060150	0.523982	-0.055569	0.522157
152	Jan-78	6.44	0.005214	-0.058114	0.523171	-0.054045	0.521550
153	Feb-78	6.45	0.005222	-0.058059	0.523149	-0.054004	0.521534
154	Mar-78	6.29	0.005096	-0.058938	0.523499	-0.054662	0.521796
155	Apr-78	6.29	0.005096	-0.058938	0.523499	-0.054662	0.521796
156	May-78	6.41	0.005191	-0.058279	0.523237	-0.054188	0.521600
157	Jun-78	6.73	0.005442	-0.056523	0.522538	-0.052854	0.521076
158	Jul-78	7.01	0.005662	-0.054991	0.521927	-0.051708	0.520619
159	Aug-78	7.08	0.005717	-0.054609	0.521775	-0.051422	0.520505
160	Sep-78	7.85	0.006317	-0.050420	0.520106	-0.048287	0.519256
161	Oct-78	7.99	0.006426	-0.049662	0.519804	-0.047719	0.519030
162	Nov-78	8.64	0.006930	-0.046153	0.518406	-0.045093	0.517983
163	Dec-78	9.08	0.007269	-0.043791	0.517464	-0.043324	0.517279
164	Jan-79	9.35	0.007476	-0.042345	0.516888	-0.042242	0.516847
165	Feb-79	9.32	0.007453	-0.042506	0.516952	-0.042363	0.516895
166	Mar-79	9.48	0.007576	-0.041651	0.516611	-0.041723	0.516640
167	Apr-79	9.46	0.007561	-0.041757	0.516654	-0.041802	0.516672
168	May-79	9.61	0.007678	-0.040957	0.516335	-0.041203	0.516433
169	Jun-79	9.06	0.007254	-0.043898	0.517507	-0.043404	0.517311
170	Jul-79	9.24	0.007392	-0.042934	0.517123	-0.042683	0.517023
171	Aug-79	9.52	0.007607	-0.041437	0.516526	-0.041563	0.516576
172	Sep-79	10.26	0.008172	-0.037500	0.514957	-0.038618	0.515402
173	Oct-79	11.70	0.009263	-0.029914	0.511932	-0.032938	0.513138
174	Nov-79	11.79	0.009331	-0.029444	0.511745	-0.032586	0.512998
175	Dec-79	12.04	0.009519	-0.028138	0.511224	-0.031608	0.512608
176	Jan-80	12.00	0.009489	-0.028346	0.511307	-0.031764	0.512670
177	Feb-80	12.86	0.010132	-0.023874	0.509524	-0.026417	0.511335
178	Mar-80	15.20	0.011861	-0.011877	0.504738	-0.019437	0.507754
179	Apr-80	13.20	0.010386	-0.022116	0.508822	-0.027101	0.510810
180	May-80	8.58	0.006883	-0.046476	0.518535	-0.045335	0.518080
181	Jun-80	7.07	0.005709	-0.054664	0.521797	-0.051463	0.520522
182	Jul-80	8.08	0.006481	-0.049283	0.519653	-0.047435	0.518917
183	Aug-80	9.13	0.007307	-0.043523	0.517358	-0.043124	0.517199
184	Sep-80	10.27	0.008180	-0.037447	0.514936	-0.038576	0.515386
185	Oct-80	11.62	0.009203	-0.030333	0.512099	-0.033252	0.513263
186	Nov-80	13.73	0.010779	-0.019385	0.507733	-0.025057	0.509995
187	Dec-80	15.49	0.012073	-0.010407	0.504152	-0.018337	0.507315
188	Jan-81	15.02	0.011730	-0.012791	0.505103	-0.020122	0.508027
189	Feb-81	14.79	0.011561	-0.013961	0.505570	-0.020998	0.508376
190	Mar-81	13.36	0.010505	-0.021290	0.508493	-0.026463	0.510564
191	Apr-81	13.69	0.010749	-0.019591	0.507815	-0.025211	0.510057
192	May-81	16.30	0.012663	-0.008321	0.502522	-0.015279	0.506095
193	Jun-81	14.73	0.011517	-0.014267	0.505692	-0.021226	0.508467
194	Jul-81	14.95	0.011678	-0.013147	0.505245	-0.020388	0.508133
195	Aug-81	15.51	0.012088	-0.010306	0.504111	-0.018261	0.507285
196	Sep-81	14.70	0.011495	-0.014420	0.505753	-0.021341	0.508513
197	Oct-81	13.54	0.010638	-0.020363	0.508123	-0.025789	0.510287
198	Nov-81	10.86	0.008629	-0.034327	0.513692	-0.036241	0.514455
199	Dec-81	10.85	0.008621	-0.034380	0.513713	-0.036281	0.514471
200	Jan-82	12.28	0.009699	-0.026887	0.510725	-0.030672	0.512234
201	Feb-82	13.48	0.010594	-0.020672	0.508246	-0.026020	0.510379
202	Mar-82	12.68	0.009998	-0.024806	0.509898	-0.029116	0.511614
203	Apr-82	12.70	0.010013	-0.024704	0.509854	-0.029038	0.511583
204	May-82	12.09	0.009556	-0.027877	0.511120	-0.031413	0.512530

Appendix 9
Assuming Lognormal Distribution Calculate Probability Equities Exceed Cash

	A	B	C	D	E	F	G
205	Jun-82	12.47	0.009841	-0.025898	0.510331	-0.029932	0.511939
206	Jul-82	11.35	0.008999	-0.031749	0.512664	-0.034311	0.513686
207	Aug-82	8.68	0.006961	-0.045938	0.518320	-0.044932	0.517919
208	Sep-82	7.92	0.006372	-0.050041	0.519955	-0.048003	0.519143
209	Oct-82	7.71	0.006209	-0.051180	0.520409	-0.048855	0.519483
210	Nov-82	8.07	0.006488	-0.049229	0.519632	-0.047395	0.518901
211	Dec-82	7.94	0.006387	-0.049933	0.519912	-0.047922	0.519111
212	Jan-83	7.86	0.006325	-0.050366	0.520085	-0.048246	0.519240
213	Feb-83	8.11	0.006519	-0.049013	0.519545	-0.047233	0.518836
214	Mar-83	8.35	0.006705	-0.047716	0.519029	-0.046263	0.518450
215	Apr-83	8.21	0.006597	-0.048472	0.519330	-0.046828	0.518675
216	May-83	8.19	0.006581	-0.048580	0.519373	-0.046909	0.518707
217	Jun-83	8.79	0.007045	-0.045347	0.518085	-0.044489	0.517743
218	Jul-83	9.08	0.007269	-0.043791	0.517464	-0.043324	0.517279
219	Aug-83	9.34	0.007469	-0.042399	0.516910	-0.042262	0.516663
220	Sep-83	9.00	0.007207	-0.044219	0.517635	-0.043645	0.517406
221	Oct-83	8.84	0.006830	-0.048153	0.518406	-0.045093	0.517983
222	Nov-83	8.76	0.007022	-0.045508	0.518149	-0.044610	0.517791
223	Dec-83	9.00	0.007207	-0.044219	0.517635	-0.043645	0.517406
224	Jan-84	8.90	0.007130	-0.044758	0.517849	-0.044047	0.517567
225	Feb-84	9.09	0.007277	-0.043737	0.517443	-0.043284	0.517263
226	Mar-84	9.52	0.007607	-0.041437	0.516526	-0.041563	0.516576
227	Apr-84	9.69	0.007737	-0.040530	0.516165	-0.040884	0.516306
228	May-84	9.83	0.007844	-0.039785	0.515868	-0.040326	0.516083
229	Jun-84	9.87	0.007875	-0.039572	0.515783	-0.040167	0.516020
230	Jul-84	10.12	0.008066	-0.038243	0.515253	-0.039172	0.515623
231	Aug-84	10.47	0.008332	-0.036368	0.514513	-0.037783	0.515070
232	Sep-84	10.37	0.008256	-0.036917	0.514725	-0.038180	0.515228
233	Oct-84	9.74	0.007775	-0.040264	0.516059	-0.040685	0.516226
234	Nov-84	8.61	0.006907	-0.046315	0.518470	-0.045214	0.518032
235	Dec-84	8.06	0.006481	-0.049283	0.519653	-0.047435	0.518917
236	Jan-85	7.76	0.006247	-0.050908	0.520301	-0.048652	0.519402
237	Feb-85	8.27	0.006643	-0.048148	0.519201	-0.046856	0.518578
238	Mar-85	8.52	0.006837	-0.046800	0.518664	-0.045577	0.518176
239	Apr-85	7.95	0.006395	-0.049878	0.519890	-0.047881	0.519095
240	May-85	7.48	0.006029	-0.052429	0.520907	-0.049790	0.519855
241	Jun-85	6.95	0.005615	-0.055319	0.522058	-0.051953	0.520717
242	Jul-85	7.08	0.005717	-0.054809	0.521775	-0.051422	0.520505
243	Aug-85	7.14	0.005764	-0.054282	0.521645	-0.051177	0.520408
244	Sep-85	7.10	0.005732	-0.054500	0.521732	-0.051340	0.520473
245	Oct-85	7.16	0.005779	-0.054173	0.521601	-0.051085	0.520375
246	Nov-85	7.24	0.005842	-0.053736	0.521427	-0.050769	0.520245
247	Dec-85	7.10	0.005732	-0.054500	0.521732	-0.051340	0.520473
248	Jan-86	7.07	0.005709	-0.054664	0.521797	-0.051463	0.520522
249	Feb-86	7.06	0.005701	-0.054718	0.521819	-0.051504	0.520538
250	Mar-86	6.56	0.005309	-0.057455	0.522909	-0.053552	0.521354
251	Apr-86	6.06	0.004915	-0.060205	0.524004	-0.055610	0.522174
252	May-86	6.15	0.004966	-0.059709	0.523806	-0.055239	0.522026
253	Jun-86	6.21	0.005033	-0.059378	0.523675	-0.054992	0.521928
254	Jul-86	5.83	0.004733	-0.061474	0.524509	-0.056560	0.522552
255	Aug-86	5.53	0.004495	-0.063134	0.525170	-0.057802	0.523047
256	Sep-86	5.21	0.004241	-0.064909	0.525877	-0.059131	0.523576
257	Oct-86	5.18	0.004217	-0.065076	0.525943	-0.059256	0.523626
258	Nov-86	5.35	0.004353	-0.064132	0.525567	-0.058549	0.523345
259	Dec-86	5.53	0.004495	-0.063134	0.525170	-0.057802	0.523047
260	Jan-87	5.43	0.004416	-0.063688	0.525391	-0.058217	0.523212
261	Feb-87	5.59	0.004543	-0.062801	0.525038	-0.057554	0.522948
262	Mar-87	5.59	0.004543	-0.062801	0.525038	-0.057554	0.522948
263	Apr-87	5.64	0.004583	-0.062524	0.524927	-0.057346	0.522865
264	May-87	5.66	0.004599	-0.062414	0.524883	-0.057264	0.522832
265	Jun-87	5.67	0.004606	-0.062358	0.524861	-0.057222	0.522816
266	Jul-87	5.69	0.004622	-0.062248	0.524817	-0.057139	0.522783
267	Aug-87	6.04	0.004899	-0.060315	0.524048	-0.055693	0.522207
268	Sep-87	6.40	0.005183	-0.058334	0.523259	-0.054210	0.521616
269	Oct-87	6.13	0.004970	-0.059819	0.523850	-0.055321	0.522059
270	Nov-87	5.69	0.004622	-0.062248	0.524817	-0.057139	0.522783
271	Dec-87	5.77	0.004686	-0.061805	0.524641	-0.056806	0.522651
272	Jan-88	5.81	0.004717	-0.061584	0.524553	-0.056643	0.522585

Appendix B
Assuming Lognormal Distribution Calculate Probability Equities Exceed Cash

	A	B	C	D	E	F	G
273	Feb-88	5.66	0.004599	-0.062414	0.524883	-0.057264	0.522832
274	Mar-88	5.70	0.004630	-0.062192	0.524795	-0.057098	0.522766
275	Apr-88	5.91	0.004796	-0.061032	0.524333	-0.056229	0.522421
276	May-88	6.26	0.005073	-0.059103	0.523565	-0.054786	0.521845
277	Jun-88	6.46	0.005230	-0.058004	0.523127	-0.053963	0.521518
278	Jul-88	6.73	0.005442	-0.056523	0.522538	-0.052854	0.521076
279	Aug-88	7.06	0.005701	-0.054718	0.521819	-0.051504	0.520538
280	Sep-88	7.24	0.005842	-0.053736	0.521427	-0.050769	0.520245
281	Oct-88	7.35	0.005928	-0.053137	0.521189	-0.050320	0.520066
282	Nov-88	7.76	0.006247	-0.050908	0.520301	-0.048652	0.519402
283	Dec-88	8.07	0.006488	-0.049229	0.519632	-0.047395	0.518901
284	Jan-89	8.27	0.006643	-0.048148	0.519201	-0.046586	0.518578
285	Feb-89	8.53	0.006845	-0.046746	0.518642	-0.045536	0.518160
286	Mar-89	8.82	0.007069	-0.045186	0.518020	-0.044369	0.517695
287	Apr-89	8.65	0.006937	-0.046100	0.518385	-0.045053	0.517967
288	May-89	8.43	0.006787	-0.047285	0.518857	-0.045940	0.518321
289	Jun-89	8.15	0.006550	-0.048796	0.519459	-0.047071	0.518772
290	Jul-89	7.88	0.006341	-0.050258	0.520042	-0.048165	0.519208
291	Aug-89	7.90	0.006356	-0.050149	0.519998	-0.048084	0.519175
292	Sep-89	7.75	0.006240	-0.050663	0.520322	-0.048692	0.519418
293	Oct-89	7.64	0.006154	-0.051560	0.520560	-0.049139	0.519596
294	Nov-89	7.69	0.006193	-0.051288	0.520452	-0.048936	0.519515
295	Dec-89	7.63	0.006146	-0.051614	0.520582	-0.049180	0.519812
296	Jan-90	7.64	0.006154	-0.051560	0.520560	-0.049139	0.519596
297	Feb-90	7.74	0.006232	-0.051017	0.520344	-0.048733	0.519434
298	Mar-90	7.90	0.006356	-0.050149	0.519998	-0.048084	0.519175
299	Apr-90	7.77	0.006255	-0.050854	0.520279	-0.048611	0.519386
300	May-90	7.74	0.006232	-0.051017	0.520344	-0.048733	0.519434
301	Jun-90	7.73	0.006224	-0.051071	0.520366	-0.048774	0.519450
302	Jul-90	7.62	0.006138	-0.051668	0.520604	-0.049221	0.519828
303	Aug-90	7.45	0.006006	-0.052593	0.520972	-0.049912	0.519904
304	Sep-90	7.36	0.005936	-0.053082	0.521167	-0.050279	0.520050
305	Oct-90	7.17	0.005787	-0.054118	0.521579	-0.051054	0.520359
306	Nov-90	7.06	0.005701	-0.054718	0.521819	-0.051504	0.520538
307	Dec-90	6.74	0.005450	-0.056468	0.522516	-0.052813	0.521060
308	Jan-91	6.22	0.005041	-0.059323	0.523653	-0.054950	0.521911
309	Feb-91	5.94	0.004820	-0.060867	0.524267	-0.056105	0.522371
310	Mar-91	5.91	0.004796	-0.061032	0.524333	-0.056229	0.522421
311	Apr-91	5.65	0.004591	-0.062469	0.524905	-0.057305	0.522849
312	May-91	5.46	0.004440	-0.063521	0.525324	-0.058093	0.523163
313	Jun-91	5.57	0.004527	-0.062912	0.525082	-0.057636	0.522981
314	Jul-91	5.58	0.004535	-0.062857	0.525060	-0.057595	0.522964
315	Aug-91	5.33	0.004337	-0.064243	0.525612	-0.058632	0.523378
316	Sep-91	5.22	0.004249	-0.064853	0.525855	-0.059090	0.523560
317	Oct-91	4.99	0.004066	-0.066133	0.526364	-0.060047	0.523941
318	Nov-91	4.56	0.003723	-0.068532	0.527319	-0.061843	0.524656
319	Dec-91	4.07	0.003330	-0.071278	0.528412	-0.063898	0.525475
320	Jan-92	3.80	0.003113	-0.072797	0.529016	-0.065035	0.525927
321	Feb-92	3.84	0.003145	-0.072572	0.528927	-0.064867	0.525860
322	Mar-92	4.04	0.003306	-0.071447	0.528479	-0.064025	0.525525
323	Apr-92	3.75	0.003073	-0.073079	0.529128	-0.065246	0.526011
324	May-92	3.63	0.002976	-0.073755	0.529397	-0.065752	0.526213
325	Jun-92	3.66	0.003000	-0.073586	0.529330	-0.065626	0.526162
326	Jul-92	3.21	0.002638	-0.076129	0.530342	-0.067529	0.526920
327	Aug-92	3.13	0.002572	-0.076583	0.530522	-0.067869	0.527055
328	Sep-92	2.91	0.002393	-0.077831	0.531019	-0.068803	0.527427
329	Oct-92	2.86	0.002353	-0.078115	0.531132	-0.069016	0.527512
330	Nov-92	3.13	0.002572	-0.076583	0.530522	-0.067869	0.527055
331	Dec-92	3.22	0.002645	-0.076073	0.530319	-0.067467	0.526903
332	Jan-93	3.00	0.002466	-0.077320	0.530816	-0.068421	0.527275
333	Feb-93	2.93	0.002408	-0.077716	0.530974	-0.068718	0.527393
334	Mar-93	2.95	0.002426	-0.077604	0.530929	-0.068633	0.527359
335	Apr-93	2.87	0.002361	-0.078058	0.531109	-0.068873	0.527495
336	May-93	2.96	0.002434	-0.077547	0.530908	-0.068591	0.527342
337	Jun-93	3.07	0.002523	-0.076923	0.530658	-0.068123	0.527156
338	Jul-93	3.04	0.002499	-0.077093	0.530725	-0.068251	0.527207
339	Aug-93	3.02	0.002482	-0.077207	0.530770	-0.068336	0.527241
340	Sep-93	2.95	0.002426	-0.077604	0.530929	-0.068633	0.527359

Appendix 9
Assuming Lognormal Distribution Calculate Probability Equities Exceed Cash

	A	B	C	D	E	F	G
341	Oct-93	3.02	0.002482	-0.077207	0.530770	-0.068336	0.527241
342	Nov-93	3.10	0.002547	-0.078753	0.530590	-0.067998	0.527108
343	Dec-93	3.08	0.002515	-0.076980	0.530680	-0.068168	0.527173
344	Jan-94	2.98	0.002450	-0.077434	0.530881	-0.068508	0.527309
345	Feb-94	3.25	0.002689	-0.075903	0.530252	-0.067360	0.526852
346	Mar-94	3.50	0.002871	-0.074489	0.529689	-0.068302	0.526431
347	Apr-94	3.68	0.003016	-0.073473	0.529285	-0.065541	0.526129
348	May-94	4.14	0.003386	-0.070885	0.528255	-0.063604	0.525357
349	Jun-94	4.14	0.003386	-0.070885	0.528255	-0.063604	0.525357
350	Jul-94	4.33	0.003539	-0.069819	0.527831	-0.062807	0.525040
351	Aug-94	4.48	0.003659	-0.068980	0.527497	-0.062178	0.524789
352	Sep-94	4.62	0.003771	-0.068197	0.527188	-0.061592	0.524556
353	Oct-94	4.95	0.004034	-0.066358	0.526453	-0.060214	0.524007
354	Nov-94	5.29	0.004305	-0.064485	0.525700	-0.058798	0.523444
355	Dec-94	5.60	0.004551	-0.062748	0.525016	-0.057512	0.522931
356	Jan-95	5.71	0.004638	-0.062137	0.524773	-0.057057	0.522750
357	Feb-95	5.77	0.004686	-0.061805	0.524641	-0.056808	0.522651
358	Mar-95	5.73	0.004654	-0.062027	0.524729	-0.056974	0.522717
359	Apr-95	5.65	0.004591	-0.062469	0.524905	-0.057305	0.522849
360	May-95	5.67	0.004606	-0.062358	0.524861	-0.057222	0.522816
361	Jun-95	5.47	0.004448	-0.063466	0.525302	-0.058051	0.523146
362	Jul-95	5.42	0.004408	-0.063743	0.525413	-0.058259	0.523229
363	Aug-95	5.40	0.004392	-0.063854	0.525457	-0.058342	0.523262
364	Sep-95	5.28	0.004297	-0.064520	0.525722	-0.058840	0.523460
365	Oct-95	5.28	0.004297	-0.064520	0.525722	-0.058840	0.523460
366	Nov-95	5.36	0.004361	-0.064076	0.525545	-0.058508	0.523328
367	Dec-95	5.14	0.004186	-0.065298	0.526032	-0.059422	0.523692
368	Jan-96	5.00	0.004074	-0.066077	0.526342	-0.060005	0.523924
369	Feb-96	4.83	0.003939	-0.067024	0.526719	-0.060714	0.524207
370	Mar-96	4.96	0.004042	-0.066300	0.526431	-0.060172	0.523991
371	Apr-96	4.95	0.004034	-0.066356	0.526453	-0.060214	0.524007
372	May-96	5.02	0.004090	-0.065968	0.526298	-0.059922	0.523891
373	Jun-96	5.09	0.004146	-0.065578	0.526142	-0.059631	0.523775
374	Jul-96	5.15	0.004194	-0.065242	0.526010	-0.059381	0.523676
375	Aug-96	5.05	0.004114	-0.065799	0.526231	-0.059797	0.523841
376	Sep-96	5.09	0.004146	-0.065578	0.526142	-0.059631	0.523775
377	Oct-96	4.99	0.004086	-0.066133	0.526364	-0.060047	0.523941
378	Nov-96	5.03	0.004098	-0.065910	0.526275	-0.059880	0.523875
379	Dec-96	4.91	0.004002	-0.066578	0.526541	-0.060381	0.524074
380	Jan-97	5.03	0.004098	-0.065910	0.526275	-0.059880	0.523875
381	Feb-97	5.01	0.004082	-0.066021	0.526320	-0.059964	0.523908
382	Mar-97	5.14	0.004186	-0.065298	0.526032	-0.059422	0.523692
383	Apr-97	5.16	0.004202	-0.065187	0.525987	-0.059339	0.523659
384	May-97	5.05	0.004114	-0.065799	0.526231	-0.059797	0.523841
385	Jun-97	4.93	0.004018	-0.066467	0.526497	-0.060297	0.524041
386	Jul-97	5.05	0.004114	-0.065799	0.526231	-0.059797	0.523841
387	Aug-97	5.14	0.004186	-0.065298	0.526032	-0.059422	0.523692
388	Sep-97	4.95	0.004034	-0.066356	0.526453	-0.060214	0.524007
389	Oct-97	4.97	0.004050	-0.066244	0.526408	-0.060130	0.523974
390	Nov-97	5.14	0.004186	-0.065298	0.526032	-0.059422	0.523692
391	Dec-97	5.16	0.004202	-0.065187	0.525987	-0.059339	0.523659
392	Jan-98	5.04	0.004108	-0.065854	0.526253	-0.059839	0.523858
393	Feb-98	5.09	0.004146	-0.065578	0.526142	-0.059631	0.523775
394	Mar-98	5.03	0.004098	-0.065910	0.526275	-0.059880	0.523875
395	Apr-98	4.95	0.004034	-0.066356	0.526453	-0.060214	0.524007
396	May-98	5.00	0.004074	-0.066077	0.526342	-0.060005	0.523924
397	Jun-98	4.98	0.004058	-0.066188	0.526386	-0.060089	0.523958
398	Jul-98	4.96	0.004042	-0.066300	0.526431	-0.060172	0.523991
399	Aug-98	4.90	0.003994	-0.066634	0.526564	-0.060422	0.524080
400	Sep-98	4.81	0.003763	-0.068253	0.527208	-0.061634	0.524573
401	Oct-98	3.98	0.003242	-0.071898	0.528658	-0.064361	0.525659
402	Nov-98	4.41	0.003603	-0.069371	0.527853	-0.062471	0.524806
403	Dec-98	4.38	0.003587	-0.069483	0.527698	-0.062555	0.524840

Appendix 10
Relative Frequency (Probability Value Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Date	3 Month T-bill Rate										Bin	Frequency	Cumulative %
1												0.0023	140	36.55%
2												0.0025	1	36.81%
3												0.0027	0	37.08%
4	Jan-66	4.59	d	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0029	1	38.12%
5	Feb-66	4.65	0.003746815	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0031	4	38.12%
6	Mar-66	4.59	0.003746815	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0033	0	38.38%
7	Apr-66	4.62	0.003770804	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0035	1	38.38%
8	May-66	4.64	0.003766794	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0037	0	38.38%
9	Jun-66	4.50	0.003674609	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.0039	3	39.16%
10	Jul-66	4.80	0.003914608	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.0041	1	39.43%
11	Aug-66	4.96	0.004042243	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.0043	1	39.69%
12	Sep-66	5.37	0.004368496	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.0045	1	39.95%
13	Oct-66	5.35	0.004352808	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.0047	1	40.21%
14	Nov-66	5.32	0.004328771	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.0049	2	40.73%
15	Dec-66	4.96	0.004042243	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.0051	1	40.99%
16	Jan-67	4.72	0.003850723	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0053	0	40.99%
17	Feb-67	4.56	0.003722819	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0055	0	40.99%
18	Mar-67	4.26	0.003482516	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.0057	0	40.99%
19	Apr-67	3.84	0.003145024	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.0059	2	41.51%
20	May-67	3.60	0.002951609	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.0061	1	41.78%
21	Jun-67	3.54	0.002903192	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.0063	0	41.78%
22	Jul-67	4.21	0.003442404	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.0065	0	41.78%
23	Aug-67	4.27	0.003490536	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.0067	1	42.04%
24	Sep-67	4.42	0.003610757	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.0069	1	42.30%
25	Oct-67	4.56	0.003722819	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0071	3	43.08%
26	Nov-67	4.73	0.003858711	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0073	1	43.34%
27	Dec-67	4.97	0.004050214	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.0075	1	43.60%
28	Jan-68	5.00	0.004074124	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.0077	0	43.60%
29	Feb-68	4.96	0.004058185	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.0079	0	43.60%
30	Mar-68	5.17	0.004209494	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.0081	0	43.60%
31	Apr-68	5.38	0.004376439	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.0083	0	43.86%
32	May-68	5.66	0.004598558	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.0085	1	44.13%
33	Jun-68	5.52	0.004487566	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.0087	0	44.13%
34	Jul-68	5.31	0.004320824	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.0089	2	44.65%
35	Aug-68	5.09	0.004145815	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.0091	1	44.91%
36	Sep-68	5.19	0.004225406	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.0093	0	44.91%
37	Oct-68	5.35	0.004352608	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.0095	0	44.91%
38	Nov-68	5.45	0.004432019	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.0097	2	45.43%
39	Dec-68	5.96	0.004835945	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.0099	1	45.69%
40	Jan-69	6.14	0.004978082	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.0101	0	45.69%
41	Feb-69	6.12	0.004962300	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.0103	0	45.69%
42	Mar-69	6.02	0.004883349	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.0105	0	45.69%
43	Apr-69	6.11	0.004954408	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.0107	0	45.69%
44	May-69	6.04	0.004899145	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.0109	0	45.69%

Appendix 10
Relative Frequency (Probability Value Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
46	Jun-69	6.44	0.005214487	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.0111	0	45.69%
47	Jul-69	7.00	0.005654145	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.0113	2	46.21%
48	Aug-69	6.98	0.005638480	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.0115	2	46.74%
49	Sep-69	7.09	0.005724608	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.0117	0	46.74%
50	Oct-69	7.00	0.005654145	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.0119	1	47.00%
51	Nov-69	7.24	0.005841925	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.0121	2	47.52%
52	Dec-69	7.82	0.006294141	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.0123	1	47.78%
53	Jan-70	7.87	0.006333020	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.0125	1	48.04%
54	Feb-70	7.13	0.005755907	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.0127	0	48.04%
55	Mar-70	6.63	0.005363894	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	More	199	100.00%
56	Apr-70	6.51	0.005269560	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
57	May-70	6.84	0.005528744	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
58	Jun-70	6.68	0.005403171	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
59	Jul-70	6.45	0.005222356	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
60	Aug-70	6.41	0.005190874	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
61	Sep-70	6.12	0.004962300	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
62	Oct-70	5.91	0.004796424	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
63	Nov-70	5.28	0.004296979	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133			
64	Dec-70	4.87	0.003970470	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
65	Jan-71	4.44	0.003626774	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188			
66	Feb-71	3.70	0.003032249	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
67	Mar-71	3.38	0.002773951	0.629243	0.629243	0.629243	0.629243	0.629243	0.629243	0.629243	0.629243			
68	Apr-71	3.86	0.003161124	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
69	May-71	4.14	0.003386217	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188			
70	Jun-71	4.75	0.003874685	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
71	Jul-71	5.40	0.004392322	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522			
72	Aug-71	4.94	0.004028298	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
73	Sep-71	4.69	0.003826755	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
74	Oct-71	4.46	0.003642789	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188			
75	Nov-71	4.22	0.003450428	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188			
76	Dec-71	4.01	0.003281778	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
77	Jan-72	3.38	0.002773951	0.629243	0.629243	0.629243	0.629243	0.629243	0.629243	0.629243	0.629243			
78	Feb-72	3.20	0.002628337	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854			
79	Mar-72	3.73	0.003056427	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
80	Apr-72	3.71	0.003040309	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
81	May-72	3.69	0.003024188	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
82	Jun-72	3.91	0.003201360	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
83	Jul-72	3.98	0.003257860	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
84	Aug-72	4.02	0.003289816	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
85	Sep-72	4.66	0.003802780	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
86	Oct-72	4.74	0.003866898	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
87	Nov-72	4.78	0.003899841	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
88	Dec-72	5.07	0.004129889	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133			
89	Jan-73	5.41	0.004400263	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522			

Appendix 10
Relative Frequency (Probability Value Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
90	Feb-73	5.60	0.004551007	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
91	Mar-73	6.09	0.004938622	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
92	Apr-73	6.26	0.005072717	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
93	May-73	6.36	0.005151505	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
94	Jun-73	7.19	0.005802836	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856			
95	Jul-73	8.01	0.006441795	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
96	Aug-73	8.67	0.006952858	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
97	Sep-73	8.29	0.006658959	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634			
98	Oct-73	7.22	0.005826292	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856			
99	Nov-73	7.83	0.006301918	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
100	Dec-73	7.45	0.006005917	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
101	Jan-74	7.77	0.006255245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
102	Feb-74	7.12	0.005748083	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856			
103	Mar-74	7.96	0.006402962	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
104	Apr-74	8.33	0.006689940	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634			
105	May-74	8.23	0.006612467	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634			
106	Jun-74	7.90	0.006356340	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
107	Jul-74	7.55	0.006083905	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
108	Aug-74	8.96	0.007176517	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
109	Sep-74	8.06	0.006480612	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
110	Oct-74	7.46	0.006013719	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
111	Nov-74	7.47	0.006021520	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
112	Dec-74	7.15	0.005771553	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856			
113	Jan-75	6.26	0.005072717	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
114	Feb-75	5.50	0.004471699	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522			
115	Mar-75	5.49	0.004463764	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522			
116	Apr-75	5.61	0.004558934	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
117	May-75	5.23	0.004257223	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133			
118	Jun-75	5.34	0.004344663	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522			
119	Jul-75	6.13	0.004970192	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
120	Aug-75	6.44	0.005214487	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
121	Sep-75	6.42	0.005198745	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
122	Oct-75	5.96	0.004835945	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
123	Nov-75	5.48	0.004455829	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522			
124	Dec-75	5.44	0.004424081	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522			
125	Jan-76	4.87	0.003970470	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
126	Feb-76	4.88	0.003978448	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
127	Mar-76	5.00	0.004074124	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
128	Apr-76	4.86	0.003962492	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
129	May-76	5.20	0.004233362	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133			
130	Jun-76	5.41	0.004400263	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522			
131	Jul-76	5.23	0.004257223	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133			
132	Aug-76	5.14	0.004185619	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133			
133	Sep-76	5.08	0.004137852	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133			
134	Oct-76	4.92	0.004010351	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			

Appendix 10
Relative Frequency (Probability Value Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
135	Nov-76	4.75	0.003874685	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
136	Dec-76	4.35	0.003554674	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188			
137	Jan-77	4.62	0.003770804	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
138	Feb-77	4.67	0.003810772	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
139	Mar-77	4.60	0.003754812	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
140	Apr-77	4.54	0.003706819	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
141	May-77	4.96	0.004042243	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
142	Jun-77	5.02	0.004090060	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
143	Jul-77	5.19	0.004225406	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133			
144	Aug-77	5.48	0.004463764	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522			
145	Sep-77	5.81	0.004717328	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
146	Oct-77	6.16	0.004893862	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
147	Nov-77	6.10	0.004846515	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
148	Dec-77	6.07	0.004822833	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
149	Jan-78	6.44	0.005214487	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
150	Feb-78	6.45	0.005222356	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
151	Mar-78	6.29	0.005096361	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
152	Apr-78	6.29	0.005096361	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
153	May-78	6.41	0.005180874	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
154	Jun-78	6.73	0.005442431	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
155	Jul-78	7.01	0.005661977	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
156	Aug-78	7.08	0.005716782	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856			
157	Sep-78	7.85	0.006317470	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
158	Oct-78	7.98	0.006426264	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
159	Nov-78	8.64	0.006926880	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
160	Dec-78	9.08	0.007268805	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
161	Jan-79	9.35	0.007476440	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
162	Feb-79	9.32	0.007453404	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
163	Mar-79	9.48	0.007576197	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
164	Apr-79	9.46	0.007560857	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
165	May-79	9.61	0.007675845	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
166	Jun-79	9.06	0.007253514	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
167	Jul-79	9.24	0.007391946	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
168	Aug-79	9.52	0.007606869	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
169	Sep-79	10.26	0.008172466	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358			
170	Oct-79	11.70	0.009263184	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914			
171	Nov-79	11.79	0.009330925	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914			
172	Dec-79	12.04	0.009518832	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692			
173	Jan-80	12.00	0.009488793	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914			
174	Feb-80	12.86	0.010132483	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081			
175	Mar-80	15.20	0.011861426	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026			
176	Apr-80	13.20	0.010385728	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081			
177	May-80	8.58	0.006883336	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023			
178	Jun-80	7.07	0.005708954	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856			
179	Jul-80	8.06	0.006490612	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			

Appendix 10
Relative Frequency (Probability Value Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
180	Aug-80	9.13	0.007307373	0.563969	0.563959	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
181	Sep-80	10.27	0.008180085	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358			
182	Oct-80	11.62	0.009202927	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914			
183	Nov-80	13.73	0.010779100	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081			
184	Dec-80	15.49	0.012073449	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804			
185	Jan-81	15.02	0.011729578	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026			
186	Feb-81	14.79	0.011560831	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
187	Mar-81	13.36	0.010504658	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081			
188	Apr-81	13.69	0.010749470	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081			
189	May-81	16.30	0.012663079	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582			
190	Jun-81	14.73	0.011516759	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
191	Jul-81	14.95	0.011678253	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
192	Aug-81	15.51	0.012088054	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804			
193	Sep-81	14.70	0.011494715	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
194	Oct-81	13.54	0.010638273	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081			
195	Nov-81	10.86	0.008628509	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747			
196	Dec-81	10.85	0.008620927	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747			
197	Jan-82	12.28	0.009698863	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692			
198	Feb-82	13.48	0.010593756	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081			
199	Mar-82	12.68	0.009998130	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081			
200	Apr-82	12.70	0.010013068	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081			
201	May-82	12.09	0.009556388	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692			
202	Jun-82	12.47	0.009841136	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081	0.543081			
203	Jul-82	11.35	0.008999269	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914	0.550914			
204	Aug-82	8.68	0.006960580	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
205	Sep-82	7.92	0.006371883	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
206	Oct-82	7.71	0.006208547	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
207	Nov-82	8.07	0.006488374	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
208	Dec-82	7.94	0.006387424	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
209	Jan-83	7.86	0.006325246	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
210	Feb-83	8.11	0.006519413	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634			
211	Mar-83	8.35	0.006705427	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023			
212	Apr-83	8.21	0.006596965	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634			
213	May-83	8.19	0.006581459	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634			
214	Jun-83	8.79	0.007045473	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
215	Jul-83	9.08	0.007268905	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
216	Aug-83	9.34	0.007468762	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
217	Sep-83	9.00	0.007207323	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
218	Oct-83	8.64	0.006929690	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
219	Nov-83	8.76	0.007022328	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
220	Dec-83	9.00	0.007207323	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
221	Jan-84	8.90	0.007130287	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
222	Feb-84	9.09	0.007276600	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
223	Mar-84	9.52	0.007606869	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
224	Apr-84	9.69	0.007737113	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			

Appendix 10
Relative Frequency (Probability Value Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
225	May-84	9.83	0.007844234	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969
226	Jun-84	9.87	0.007874816	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969
227	Jul-84	10.12	0.008065729	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969
228	Aug-84	10.47	0.008332339	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747
229	Sep-84	10.37	0.008256244	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358
230	Oct-84	9.74	0.007775385	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969
231	Nov-84	8.61	0.006906516	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191
232	Dec-84	8.06	0.006480612	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245
233	Jan-85	7.76	0.006247463	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245
234	Feb-85	8.27	0.006643464	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634
235	Mar-85	8.52	0.006836958	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023
236	Apr-85	7.95	0.006395193	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245
237	May-85	7.48	0.006029320	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245
238	Jun-85	6.95	0.005614976	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078
239	Jul-85	7.08	0.005716782	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856
240	Aug-85	7.14	0.005732434	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856
241	Sep-85	7.10	0.005708954	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856
242	Oct-85	7.16	0.005778375	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856
243	Nov-85	7.24	0.005841925	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856
244	Dec-85	7.10	0.005732434	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856
245	Jan-86	7.07	0.005708954	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856
246	Feb-86	7.06	0.005701126	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856
247	Mar-86	6.58	0.005308877	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078
248	Apr-86	6.06	0.004914938	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078
249	May-86	6.15	0.004985972	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078
250	Jun-86	6.21	0.005033288	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078
251	Jul-86	5.83	0.004733153	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689
252	Aug-86	5.53	0.004495498	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522
253	Sep-86	5.21	0.004241316	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
254	Oct-86	5.18	0.004217450	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
255	Nov-86	5.35	0.004352808	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522
256	Dec-86	5.53	0.004495498	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522
257	Jan-87	5.43	0.004416143	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522
258	Feb-87	5.59	0.004543079	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
259	Mar-87	5.59	0.004543079	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
260	Apr-87	5.64	0.004582710	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
261	May-87	5.66	0.004598558	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
262	Jun-87	5.67	0.004606481	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
263	Jul-87	5.69	0.004622325	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
264	Aug-87	6.04	0.004698145	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689
265	Sep-87	6.40	0.005183001	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078
266	Oct-87	6.13	0.004970192	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078
267	Nov-87	5.69	0.004622325	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
268	Dec-87	5.77	0.004685672	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
269	Jan-88	5.81	0.004717329	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689

Appendix 10
Relative Frequency (Probability Value Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
270	Feb-88	5.66	0.004598558	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
271	Mar-88	5.70	0.004630246	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
272	Apr-88	5.91	0.004796424	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
273	May-88	6.26	0.005072717	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
274	Jun-88	6.46	0.005230225	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
275	Jul-88	6.73	0.005442431	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
276	Aug-88	7.06	0.005701126	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856			
277	Sep-88	7.24	0.005841925	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856			
278	Oct-88	7.35	0.005927862	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
279	Nov-88	7.76	0.006247463	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
280	Dec-88	8.07	0.006488374	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
281	Jan-89	8.27	0.006643464	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634			
282	Feb-89	8.53	0.006844689	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023			
283	Mar-89	8.82	0.007068612	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
284	Apr-89	8.65	0.006937413	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
285	May-89	8.43	0.006767347	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023			
286	Jun-89	8.15	0.006550441	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634			
287	Jul-89	7.88	0.006340794	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
288	Aug-89	7.90	0.006356340	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
289	Sep-89	7.75	0.006239681	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
290	Oct-89	7.64	0.006154037	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
291	Nov-89	7.69	0.006192976	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
292	Dec-89	7.63	0.006146247	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
293	Jan-90	7.64	0.006154037	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
294	Feb-90	7.74	0.006231899	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
295	Mar-90	7.90	0.006356340	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
296	Apr-90	7.77	0.006255245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
297	May-90	7.74	0.006231899	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
298	Jun-90	7.73	0.006224116	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
299	Jul-90	7.62	0.006138457	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
300	Aug-90	7.45	0.006005917	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
301	Sep-90	7.36	0.005935671	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
302	Oct-90	7.17	0.005787196	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856			
303	Nov-90	7.06	0.005701126	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856	0.584856			
304	Dec-90	6.74	0.005450281	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
305	Jan-91	6.22	0.005041183	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
306	Feb-91	5.94	0.004820139	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
307	Mar-91	5.91	0.004796424	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
308	Apr-91	5.65	0.004590635	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
309	May-91	5.46	0.004439957	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522			
310	Jun-91	5.57	0.004527222	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
311	Jul-91	5.58	0.004535151	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
312	Aug-91	5.33	0.004336718	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522			
313	Sep-91	5.22	0.004249270	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133			
314	Oct-91	4.99	0.004066155	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			

Appendix 10
Relative Frequency (Probability Value Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
315	Nov-81	4.56	0.003722819	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355
316	Dec-81	4.07	0.003329896	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188
317	Jan-82	3.80	0.003112817	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799
318	Feb-82	3.84	0.003145024	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799
319	Mar-82	4.04	0.003305890	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188
320	Apr-82	3.75	0.003072542	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799
321	May-82	3.63	0.002975809	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799
322	Jun-82	3.66	0.003000002	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799
323	Jul-82	3.21	0.002636433	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
324	Aug-82	3.13	0.002571646	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
325	Sep-82	2.91	0.002393245	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
326	Oct-82	2.96	0.002352651	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
327	Nov-82	3.13	0.002571646	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
328	Dec-82	3.22	0.002644528	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
329	Jan-83	3.00	0.002466270	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
330	Feb-83	2.93	0.002409478	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
331	Mar-83	2.95	0.002425708	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
332	Apr-83	2.87	0.002360771	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
333	May-83	2.96	0.002433822	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
334	Jun-83	3.07	0.002523026	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
335	Jul-83	3.04	0.002488706	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
336	Aug-83	3.02	0.002482489	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
337	Sep-83	2.95	0.002425708	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
338	Oct-83	3.02	0.002482489	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
339	Nov-83	3.10	0.002547339	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
340	Dec-83	3.06	0.002514920	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
341	Jan-84	2.98	0.002450047	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
342	Feb-84	3.25	0.002668909	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854	0.631854
343	Mar-84	3.50	0.002870899	0.629243	0.629243	0.629243	0.629243	0.629243	0.629243	0.629243	0.629243	0.629243	0.629243	0.629243
344	Apr-84	3.68	0.003016127	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799
345	May-84	4.14	0.003398217	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188
346	Jun-84	4.14	0.003398217	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188
347	Jul-84	4.33	0.003539843	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188
348	Aug-84	4.48	0.003658800	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188
349	Sep-84	4.62	0.003770804	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355
350	Oct-84	4.95	0.004034271	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
351	Nov-84	5.29	0.004304928	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522
352	Dec-84	5.60	0.004551007	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
353	Jan-85	5.71	0.004638166	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
354	Feb-85	5.77	0.004685672	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
355	Mar-85	5.73	0.004654004	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
356	Apr-85	5.65	0.004590635	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
357	May-85	5.67	0.004608481	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
358	Jun-85	5.47	0.004447883	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522
359	Jul-85	5.42	0.004408203	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522

Appendix 10
Relative Frequency (Probability Value Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
360	Aug-95	5.40	0.004392322	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522
361	Sep-95	5.28	0.004296979	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
362	Oct-95	5.28	0.004296979	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
363	Nov-95	5.36	0.004360552	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522	0.600522
364	Dec-95	5.14	0.004185619	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
365	Jan-96	5.00	0.004074124	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
366	Feb-96	4.83	0.003938553	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
367	Mar-96	4.96	0.004042243	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
368	Apr-96	4.95	0.004034271	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
369	May-96	5.02	0.004090060	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
370	Jun-96	5.09	0.004145815	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
371	Jul-96	5.15	0.004193578	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
372	Aug-96	5.05	0.004113959	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
373	Sep-96	5.09	0.004145815	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
374	Oct-96	4.99	0.004066155	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
375	Nov-96	5.03	0.004098027	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
376	Dec-96	4.91	0.004002376	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
377	Jan-97	5.03	0.004098027	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
378	Feb-97	5.01	0.004082082	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
379	Mar-97	5.14	0.004185619	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
380	Apr-97	5.16	0.004201536	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
381	May-97	5.05	0.004113959	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
382	Jun-97	4.93	0.004018325	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
383	Jul-97	5.05	0.004113959	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
384	Aug-97	5.14	0.004185619	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
385	Sep-97	4.95	0.004034271	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
386	Oct-97	4.97	0.004050214	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
387	Nov-97	5.14	0.004185619	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
388	Dec-97	5.16	0.004201536	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
389	Jan-98	5.04	0.004105984	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
390	Feb-98	5.09	0.004145815	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133
391	Mar-98	5.03	0.004098027	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
392	Apr-98	4.95	0.004034271	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
393	May-98	5.00	0.004074124	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
394	Jun-98	4.98	0.004058185	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
395	Jul-98	4.96	0.004042243	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
396	Aug-98	4.90	0.003994401	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
397	Sep-98	4.61	0.003762809	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355
398	Oct-98	3.96	0.003241578	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799
399	Nov-98	4.41	0.003602747	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188
400	Dec-98	4.39	0.003586725	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188	0.616188
401			0.002352651											
402			0.012663079											

Appendix 12
Constant Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
1	Date	3 Month		Equal Weighted		
2	(Month-Year)	T-Bill Rate	d	Returns		Constant Prob
3						
4	Jan-34	0.72	0.000598029	0.317669	1	0.630208333
5	Feb-34	0.62	0.000515204	0.010085	1	
6	Mar-34	0.24	0.000199780	0.007566	1	
7	Apr-34	0.15	0.000124914	0.001762	1	
8	May-34	0.16	0.000133236	-0.106445	0	
9	Jun-34	0.15	0.000124914	0.003478	1	
10	Jul-34	0.15	0.000124914	-0.185602	0	
11	Aug-34	0.19	0.000158196	0.097822	1	
12	Sep-34	0.21	0.000174832	-0.010610	0	
13	Oct-34	0.27	0.000224722	-0.020939	0	
14	Nov-34	0.25	0.000208095	0.127128	1	
15	Dec-34	0.23	0.000191465	0.014980	1	
16	Jan-35	0.20	0.000166514	-0.029931	0	
17	Feb-35	0.19	0.000158196	-0.054802	0	
18	Mar-35	0.15	0.000124914	-0.075761	0	
19	Apr-35	0.15	0.000124914	0.102132	1	
20	May-35	0.15	0.000124914	0.024729	1	
21	Jun-35	0.15	0.000124914	0.040692	1	
22	Jul-35	0.15	0.000124914	0.111438	1	
23	Aug-35	0.16	0.000133236	0.080755	1	
24	Sep-35	0.20	0.000166514	0.023866	1	
25	Oct-35	0.20	0.000166514	0.080740	1	
26	Nov-35	0.16	0.000133236	0.145103	1	
27	Dec-35	0.15	0.000124914	0.059796	1	
28	Jan-36	0.20	0.000166514	0.149369	1	
29	Feb-36	0.20	0.000166514	0.046577	1	
30	Mar-36	0.20	0.000166514	0.004800	1	
31	Apr-36	0.20	0.000166514	-0.121373	0	
32	May-36	0.20	0.000166514	0.051895	1	
33	Jun-36	0.20	0.000166514	-0.000578	0	
34	Jul-36	0.15	0.000124914	0.081854	1	
35	Aug-36	0.20	0.000166514	0.022220	1	
36	Sep-36	0.16	0.000133236	0.033850	1	
37	Oct-36	0.13	0.000108269	0.064899	1	
38	Nov-36	0.11	0.000091620	0.090848	1	
39	Dec-36	0.12	0.000099945	0.030084	1	
40	Jan-37	0.17	0.000141556	0.075777	1	
41	Feb-37	0.15	0.000124914	0.025389	1	
42	Mar-37	0.38	0.000316116	-0.000037	0	
43	Apr-37	0.56	0.000465473	-0.101248	0	
44	May-37	0.41	0.000341026	-0.023833	0	
45	Jun-37	0.36	0.000299506	-0.076140	0	
46	Jul-37	0.28	0.000233034	0.098243	1	
47	Aug-37	0.29	0.000241346	-0.051581	0	
48	Sep-37	0.31	0.000257967	-0.192223	0	
49	Oct-37	0.20	0.000166514	-0.102088	0	
50	Nov-37	0.09	0.000074969	-0.108609	0	
51	Dec-37	0.11	0.000091620	-0.099962	0	
52	Jan-38	0.10	0.000083295	0.043053	1	
53	Feb-38	0.08	0.000066642	0.059460	1	
54	Mar-38	0.08	0.000066642	-0.285612	0	
55	Apr-38	0.09	0.000074969	0.216070	1	
56	May-38	0.05	0.000041657	-0.070239	0	

Appendix 12
Constant Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
57	Jun-38	0.05	0.000041657	0.306153	1	
58	Jul-38	0.07	0.000058315	0.121239	1	
59	Aug-38	0.06	0.000049986	-0.062467	0	
60	Sep-38	0.08	0.000066642	-0.015390	0	
61	Oct-38	0.05	0.000041657	0.145201	1	
62	Nov-38	0.04	0.000033327	-0.036190	0	
63	Dec-38	0.03	0.000024997	0.032274	1	
64	Jan-39	0.03	0.000024997	-0.075517	0	
65	Feb-39	0.03	0.000024997	0.041026	1	
66	Mar-39	0.03	0.000024997	-0.172152	0	
67	Apr-39	0.03	0.000024997	0.001386	1	
68	May-39	0.03	0.000024997	0.086120	1	
69	Jun-39	0.03	0.000024997	-0.084583	0	
70	Jul-39	0.04	0.000033327	0.134705	1	
71	Aug-39	0.05	0.000041657	-0.106282	0	
72	Sep-39	0.14	0.000116592	0.392728	1	
73	Oct-39	0.05	0.000041657	-0.007336	0	
74	Nov-39	0.05	0.000041657	-0.080841	0	
75	Dec-39	0.04	0.000033327	0.016323	1	
76	Jan-40	0.01	0.000008333	-0.018491	0	
77	Feb-40	0.02	0.000016665	0.029486	1	
78	Mar-40	0.02	0.000016665	0.026239	1	
79	Apr-40	0.02	0.000016665	0.015530	1	
80	May-40	0.06	0.000049986	-0.268552	0	
81	Jun-40	0.10	0.000083295	0.066308	1	
82	Jul-40	0.05	0.000041657	0.036894	1	
83	Aug-40	0.04	0.000033327	0.023333	1	
84	Sep-40	0.05	0.000041657	0.037789	1	
85	Oct-40	0.02	0.000016665	0.049223	1	
86	Nov-40	0.02	0.000016665	-0.002018	0	
87	Dec-40	0.02	0.000016665	-0.017094	0	
88	Jan-41	0.02	0.000016665	-0.006876	0	
89	Feb-41	0.04	0.000033327	-0.020483	0	
90	Mar-41	0.11	0.000091620	0.016677	1	
91	Apr-41	0.10	0.000083295	-0.054966	0	
92	May-41	0.11	0.000091620	0.009761	1	
93	Jun-41	0.12	0.000099945	0.067057	1	
94	Jul-41	0.12	0.000099945	0.128690	1	
95	Aug-41	0.13	0.000108269	-0.005861	0	
96	Sep-41	0.10	0.000083295	-0.021119	0	
97	Oct-41	0.09	0.000074969	-0.062217	0	
98	Nov-41	0.28	0.000233034	-0.033320	0	
99	Dec-41	0.33	0.000274585	-0.082162	0	
100	Jan-42	0.27	0.000224722	0.130737	1	
101	Feb-42	0.25	0.000208095	-0.016513	0	
102	Mar-42	0.25	0.000208095	-0.052209	0	
103	Apr-42	0.32	0.000266276	-0.044369	0	
104	May-42	0.37	0.000307812	0.030448	1	
105	Jun-42	0.37	0.000307812	0.023985	1	
106	Jul-42	0.38	0.000316116	0.045939	1	
107	Aug-42	0.38	0.000316116	0.027825	1	
108	Sep-42	0.38	0.000316116	0.048439	1	
109	Oct-42	0.38	0.000316116	0.101545	1	
110	Nov-42	0.38	0.000316116	-0.013671	0	
111	Dec-42	0.38	0.000316116	0.035660	1	
112	Jan-43	0.38	0.000316116	0.167345	1	

Appendix 12
Constant Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
113	Feb-43	0.38	0.000316116	0.133544	1	
114	Mar-43	0.38	0.000316116	0.112718	1	
115	Apr-43	0.38	0.000316116	0.035419	1	
116	May-43	0.38	0.000316116	0.084394	1	
117	Jun-43	0.38	0.000316116	0.010798	1	
118	Jul-43	0.38	0.000316116	-0.063956	0	
119	Aug-43	0.38	0.000316116	0.003063	1	
120	Sep-43	0.38	0.000316116	0.034956	1	
121	Oct-43	0.38	0.000316116	-0.003973	0	
122	Nov-43	0.38	0.000316116	-0.088354	0	
123	Dec-43	0.38	0.000316116	0.098474	1	
124	Jan-44	0.38	0.000316116	0.045564	1	
125	Feb-44	0.38	0.000316116	0.013878	1	
126	Mar-44	0.38	0.000316116	0.041304	1	
127	Apr-44	0.38	0.000316116	-0.028921	0	
128	May-44	0.38	0.000316116	0.066125	1	
129	Jun-44	0.38	0.000316116	0.105428	1	
130	Jul-44	0.38	0.000316116	-0.012595	0	
131	Aug-44	0.38	0.000316116	0.029196	1	
132	Sep-44	0.38	0.000316116	0.000177	0	
133	Oct-44	0.38	0.000316116	0.001415	1	
134	Nov-44	0.38	0.000316116	0.022945	1	
135	Dec-44	0.38	0.000316116	0.069483	1	
136	Jan-45	0.38	0.000316116	0.042912	1	
137	Feb-45	0.38	0.000316116	0.086519	1	
138	Mar-45	0.38	0.000316116	-0.056651	0	
139	Apr-45	0.38	0.000316116	0.088953	1	
140	May-45	0.38	0.000316116	0.029628	1	
141	Jun-45	0.38	0.000316116	0.036966	1	
142	Jul-45	0.38	0.000316116	-0.035179	0	
143	Aug-45	0.38	0.000316116	0.065361	1	
144	Sep-45	0.38	0.000316116	0.062674	1	
145	Oct-45	0.38	0.000316116	0.064646	1	
146	Nov-45	0.38	0.000316116	0.097799	1	
147	Dec-45	0.38	0.000316116	0.023899	1	
148	Jan-46	0.38	0.000316116	0.094391	1	
149	Feb-46	0.38	0.000316116	-0.066914	0	
150	Mar-46	0.38	0.000316116	0.058212	1	
151	Apr-46	0.38	0.000316116	0.051697	1	
152	May-46	0.38	0.000316116	0.054726	1	
153	Jun-46	0.38	0.000316116	-0.048994	0	
154	Jul-46	0.38	0.000316116	-0.040917	0	
155	Aug-46	0.38	0.000316116	-0.075395	0	
156	Sep-46	0.38	0.000316116	-0.135938	0	
157	Oct-46	0.38	0.000316116	-0.011594	0	
158	Nov-46	0.38	0.000316116	-0.002688	0	
159	Dec-46	0.38	0.000316116	0.046884	1	
160	Jan-47	0.38	0.000316116	0.030258	1	
161	Feb-47	0.38	0.000316116	-0.007465	0	
162	Mar-47	0.38	0.000316116	-0.029987	0	
163	Apr-47	0.38	0.000316116	-0.081542	0	
164	May-47	0.38	0.000316116	-0.037234	0	
165	Jun-47	0.38	0.000316116	0.056963	1	
166	Jul-47	0.66	0.000548343	0.061879	1	
167	Aug-47	0.75	0.000622862	-0.017199	0	
168	Sep-47	0.80	0.000664235	0.005749	1	

Appendix 12
Constant Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
169	Oct-47	0.85	0.000705589	0.033143	1	
170	Nov-47	0.92	0.000763453	-0.029056	0	
171	Dec-47	0.95	0.000788240	0.021860	1	
172	Jan-48	0.97	0.000804762	-0.015898	0	
173	Feb-48	1.00	0.000829538	-0.059801	0	
174	Mar-48	1.00	0.000829538	0.096071	1	
175	Apr-48	1.00	0.000829538	0.040865	1	
176	May-48	1.00	0.000829538	0.087118	1	
177	Jun-48	1.00	0.000829538	-0.012370	0	
178	Jul-48	1.00	0.000829538	-0.053724	0	
179	Aug-48	1.06	0.000879071	-0.001616	0	
180	Sep-48	1.09	0.000903827	-0.042755	0	
181	Oct-48	1.12	0.000928576	0.052888	1	
182	Nov-48	1.14	0.000945072	-0.106244	0	
183	Dec-48	1.16	0.000961565	0.014177	1	
184	Jan-49	1.17	0.000969810	0.017924	1	
185	Feb-49	1.17	0.000969810	-0.041333	0	
186	Mar-49	1.17	0.000969810	0.058956	1	
187	Apr-49	1.17	0.000969810	-0.031821	0	
188	May-49	1.17	0.000969810	-0.042723	0	
189	Jun-49	1.17	0.000969810	-0.007950	0	
190	Jul-49	1.02	0.000846052	0.062310	1	
191	Aug-49	1.04	0.000862563	0.025764	1	
192	Sep-49	1.07	0.000887323	0.043705	1	
193	Oct-49	1.05	0.000870817	0.039276	1	
194	Nov-49	1.08	0.000895575	0.010454	1	
195	Dec-49	1.10	0.000912077	0.069966	1	
196	Jan-50	1.07	0.000887323	0.040102	1	
197	Feb-50	1.12	0.000928576	0.015658	1	
198	Mar-50	1.12	0.000928576	-0.001788	0	
199	Apr-50	1.15	0.000953319	0.047735	1	
200	May-50	1.16	0.000961565	0.032819	1	
201	Jun-50	1.15	0.000953319	-0.074923	0	
202	Jul-50	1.16	0.000961565	0.050857	1	
203	Aug-50	1.20	0.000994542	0.052352	1	
204	Sep-50	1.30	0.001076932	0.054639	1	
205	Oct-50	1.31	0.001085166	-0.005599	0	
206	Nov-50	1.36	0.001126330	0.032434	1	
207	Dec-50	1.34	0.001109867	0.083956	1	
208	Jan-51	1.34	0.001109867	0.076381	1	
209	Feb-51	1.36	0.001126330	0.011537	1	
210	Mar-51	1.40	0.001159247	-0.033665	0	
211	Apr-51	1.47	0.001216823	0.040659	1	
212	May-51	1.55	0.001282580	-0.025532	0	
213	Jun-51	1.45	0.001200377	-0.044952	0	
214	Jul-51	1.56	0.001290797	0.063124	1	
215	Aug-51	1.62	0.001340079	0.047509	1	
216	Sep-51	1.63	0.001348290	0.023307	1	
217	Oct-51	1.54	0.001274363	-0.023429	0	
218	Nov-51	1.56	0.001290797	0.007421	1	
219	Dec-51	1.73	0.001430360	0.015198	1	
220	Jan-52	1.57	0.001299012	0.017501	1	
221	Feb-52	1.54	0.001274363	-0.020726	0	
222	Mar-52	1.59	0.001315441	0.029208	1	
223	Apr-52	1.57	0.001299012	-0.044818	0	
224	May-52	1.67	0.001381127	0.023888	1	

Appendix 12
Constant Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
225	Jun-52	1.70	0.001405747	0.031099	1	
226	Jul-52	1.81	0.001495963	0.011304	1	
227	Aug-52	1.83	0.001512357	-0.000286	0	
228	Sep-52	1.71	0.001413952	-0.015501	0	
229	Oct-52	1.74	0.001438563	-0.011474	0	
230	Nov-52	1.85	0.001528747	0.055663	1	
231	Dec-52	2.09	0.001725202	0.022709	1	
232	Jan-53	1.96	0.001618842	0.024362	1	
233	Feb-53	1.97	0.001627028	0.011994	1	
234	Mar-53	2.01	0.001659764	-0.010283	0	
235	Apr-53	2.19	0.001806934	-0.024130	0	
236	May-53	2.16	0.001782422	0.005783	1	
237	Jun-53	2.11	0.001741555	-0.031458	0	
238	Jul-53	2.04	0.001684309	0.017600	1	
239	Aug-53	2.04	0.001684309	-0.051682	0	
240	Sep-53	1.79	0.001479567	-0.011163	0	
241	Oct-53	1.38	0.001142790	0.038012	1	
242	Nov-53	1.44	0.001192152	0.021337	1	
243	Dec-53	1.60	0.001323654	-0.015614	0	
244	Jan-54	1.18	0.000978055	0.071321	1	
245	Feb-54	0.97	0.000804762	0.013861	1	
246	Mar-54	1.03	0.000854308	0.029353	1	
247	Apr-54	0.97	0.000804762	0.016388	1	
248	May-54	0.76	0.000631138	0.043192	1	
249	Jun-54	0.64	0.000531775	0.012067	1	
250	Jul-54	0.72	0.000598029	0.072137	1	
251	Aug-54	0.92	0.000763453	-0.009242	0	
252	Sep-54	1.01	0.000837795	0.044130	1	
253	Oct-54	0.98	0.000813021	-0.006628	0	
254	Nov-54	0.93	0.000771716	0.092005	1	
255	Dec-54	1.15	0.000953319	0.088119	1	
256	Jan-55	1.22	0.001011026	0.014081	1	
257	Feb-55	1.17	0.000969810	0.042937	1	
258	Mar-55	1.28	0.001060460	0.000939	0	
259	Apr-55	1.59	0.001315441	0.022228	1	
260	May-55	1.45	0.001200377	0.008069	1	
261	Jun-55	1.41	0.001167474	0.034707	1	
262	Jul-55	1.60	0.001323654	0.007847	1	
263	Aug-55	1.90	0.001569710	0.005689	1	
264	Sep-55	2.07	0.001708847	-0.007778	0	
265	Oct-55	2.23	0.001839606	-0.017728	0	
266	Nov-55	2.24	0.001847772	0.055276	1	
267	Dec-55	2.54	0.002092418	0.023036	1	
268	Jan-56	2.41	0.001986485	-0.020721	0	
269	Feb-56	2.32	0.001913075	0.033669	1	
270	Mar-56	2.25	0.001855938	0.051392	1	
271	Apr-56	2.60	0.002141268	0.003773	1	
272	May-56	2.61	0.002149407	-0.039689	0	
273	Jun-56	2.49	0.002051689	0.021538	1	
274	Jul-56	2.31	0.001904915	0.039859	1	
275	Aug-56	2.60	0.002141268	-0.017285	0	
276	Sep-56	2.84	0.002336408	-0.036113	0	
277	Oct-56	2.90	0.002385128	0.006800	1	
278	Nov-56	2.99	0.002458159	0.010743	1	
279	Dec-56	3.21	0.002636433	0.017636	1	
280	Jan-57	3.11	0.002555442	0.003465	1	

Appendix 12
Constant Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
281	Feb-57	3.10	0.002547339	-0.023077	0	
282	Mar-57	3.08	0.002531131	0.022234	1	
283	Apr-57	3.07	0.002523026	0.025821	1	
284	May-57	3.06	0.002514920	0.021544	1	
285	Jun-57	3.29	0.002701173	-0.006752	0	
286	Jul-57	3.16	0.002585947	0.005961	1	
287	Aug-57	3.37	0.002765868	-0.049852	0	
288	Sep-57	3.53	0.002895119	-0.052206	0	
289	Oct-57	3.58	0.002935473	-0.066185	0	
290	Nov-57	3.31	0.002717351	0.020887	1	
291	Dec-57	3.04	0.002498706	-0.048891	0	
292	Jan-58	2.44	0.002010942	0.106346	1	
293	Feb-58	1.53	0.001266145	-0.011798	0	
294	Mar-58	1.30	0.001076932	0.035981	1	
295	Apr-58	1.13	0.000936825	0.030149	1	
296	May-58	0.91	0.000755189	0.039282	1	
297	Jun-58	0.83	0.000689049	0.031810	1	
298	Jul-58	0.91	0.000755189	0.054290	1	
299	Aug-58	1.69	0.001397541	0.029916	1	
300	Sep-58	2.44	0.002010942	0.052458	1	
301	Oct-58	2.63	0.002165684	0.032455	1	
302	Nov-58	2.67	0.002198227	0.042046	1	
303	Dec-58	2.77	0.002279536	0.039062	1	
304	Jan-59	2.82	0.002320162	0.041488	1	
305	Feb-59	2.70	0.002222627	0.027492	1	
306	Mar-59	2.80	0.002303914	0.012793	1	
307	Apr-59	2.95	0.002425708	0.025591	1	
308	May-59	2.84	0.002336408	0.007587	1	
309	Jun-59	3.21	0.002636433	0.004492	1	
310	Jul-59	3.20	0.002628337	0.030152	1	
311	Aug-59	3.38	0.002773951	-0.015067	0	
312	Sep-59	4.04	0.003305890	-0.045901	0	
313	Oct-59	4.05	0.003313926	0.023218	1	
314	Nov-59	4.15	0.003394246	0.014870	1	
315	Dec-59	4.49	0.003666805	0.021240	1	
316	Jan-60	4.35	0.003554674	-0.039103	0	
317	Feb-60	3.96	0.003241578	0.008127	1	
318	Mar-60	3.31	0.002717351	-0.024466	0	
319	Apr-60	3.23	0.002652622	-0.019194	0	
320	May-60	3.29	0.002701173	0.025325	1	
321	Jun-60	2.46	0.002027243	0.021360	1	
322	Jul-60	2.30	0.001896754	-0.018074	0	
323	Aug-60	2.30	0.001896754	0.034957	1	
324	Sep-60	2.48	0.002043541	-0.058797	0	
325	Oct-60	2.30	0.001896754	-0.022993	0	
326	Nov-60	2.37	0.001953866	0.046582	1	
327	Dec-60	2.25	0.001855938	0.037387	1	
328	Jan-61	2.24	0.001847772	0.082388	1	
329	Feb-61	2.42	0.001994638	0.059865	1	
330	Mar-61	2.39	0.001970177	0.050442	1	
331	Apr-61	2.29	0.001888592	0.009411	1	
332	May-61	2.29	0.001888592	0.041767	1	
333	Jun-61	2.33	0.001921235	-0.042383	0	
334	Jul-61	2.24	0.001847772	0.011543	1	
335	Aug-61	2.39	0.001970177	0.021117	1	
336	Sep-61	2.28	0.001880429	-0.029770	0	

Appendix 12
Constant Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
337	Oct-61	2.30	0.001896754	0.021105	1	
338	Nov-61	2.48	0.002043541	0.046300	1	
339	Dec-61	2.60	0.002141268	-0.003514	0	
340	Jan-62	2.72	0.002238890	-0.007893	0	
341	Feb-62	2.73	0.002247021	0.015444	1	
342	Mar-62	2.72	0.002238890	-0.005939	0	
343	Apr-62	2.73	0.002247021	-0.068055	0	
344	May-62	2.69	0.002214495	-0.098045	0	
345	Jun-62	2.73	0.002247021	-0.084971	0	
346	Jul-62	2.92	0.002401362	0.063777	1	
347	Aug-62	2.82	0.002320162	0.037340	1	
348	Sep-62	2.78	0.002287662	-0.063898	0	
349	Oct-62	2.74	0.002255151	-0.039690	0	
350	Nov-62	2.83	0.002328286	0.121084	1	
351	Dec-62	2.87	0.002360771	-0.025598	0	
352	Jan-63	2.91	0.002393245	0.089144	1	
353	Feb-63	2.92	0.002401362	-0.014477	0	
354	Mar-63	2.89	0.002377010	0.012028	1	
355	Apr-63	2.90	0.002385128	0.026890	1	
356	May-63	2.93	0.002409478	0.032301	1	
357	Jun-63	2.99	0.002458159	-0.010382	0	
358	Jul-63	3.18	0.002612143	-0.006304	0	
359	Aug-63	3.32	0.002725439	0.042305	1	
360	Sep-63	3.38	0.002773951	-0.010373	0	
361	Oct-63	3.45	0.002830517	0.012209	1	
362	Nov-63	3.52	0.002887047	-0.016140	0	
363	Dec-63	3.52	0.002887047	-0.004225	0	
364	Jan-64	3.52	0.002887047	0.032062	1	
365	Feb-64	3.53	0.002895119	0.025173	1	
366	Mar-64	3.54	0.002903192	0.025510	1	
367	Apr-64	3.47	0.002846672	0.001004	0	
368	May-64	3.48	0.002854748	0.007537	1	
369	Jun-64	3.48	0.002854748	0.010411	1	
370	Jul-64	3.46	0.002838594	0.030161	1	
371	Aug-64	3.50	0.002870899	-0.006038	0	
372	Sep-64	3.53	0.002895119	0.038260	1	
373	Oct-64	3.57	0.002927404	0.018821	1	
374	Nov-64	3.64	0.002983874	-0.000516	0	
375	Dec-64	3.84	0.003145024	-0.012365	0	
376	Jan-65	3.81	0.003120870	0.071403	1	
377	Feb-65	3.93	0.003217449	0.032325	1	
378	Mar-65	3.93	0.003217449	0.015410	1	
379	Apr-65	3.93	0.003217449	0.041560	1	
380	May-65	3.89	0.003185267	-0.005845	0	
381	Jun-65	3.80	0.003112817	-0.083718	0	
382	Jul-65	3.84	0.003145024	0.028633	1	
383	Aug-65	3.84	0.003145024	0.041844	1	
384	Sep-65	3.92	0.003209405	0.027420	1	
385	Oct-65	4.03	0.003297854	0.058679	1	
386	Nov-65	4.09	0.003346063	0.046543	1	
387	Dec-65	4.38	0.003578713	0.042960	1	

Appendix 13
Moving Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
1	Date	3 Month		Equal Weighted		Moving
2	(Month-Year)	T-Bill Rate	d	Returns		Probability
3						
4	Jan-34	0.72	0.000598029	0.317669	1	
5	Feb-34	0.62	0.000515204	0.010085	1	
6	Mar-34	0.24	0.000199780	0.007566	1	
7	Apr-34	0.15	0.000124914	0.001762	1	
8	May-34	0.16	0.000133236	-0.106445	0	
9	Jun-34	0.15	0.000124914	0.003478	1	
10	Jul-34	0.15	0.000124914	-0.185602	0	
11	Aug-34	0.19	0.000158196	0.097822	1	
12	Sep-34	0.21	0.000174832	-0.010610	0	
13	Oct-34	0.27	0.000224722	-0.020939	0	
14	Nov-34	0.25	0.000208095	0.127128	1	
15	Dec-34	0.23	0.000191465	0.014980	1	
16	Jan-35	0.20	0.000166514	-0.029931	0	
17	Feb-35	0.19	0.000158196	-0.054802	0	
18	Mar-35	0.15	0.000124914	-0.075761	0	
19	Apr-35	0.15	0.000124914	0.102132	1	
20	May-35	0.15	0.000124914	0.024729	1	
21	Jun-35	0.15	0.000124914	0.040692	1	
22	Jul-35	0.15	0.000124914	0.111438	1	
23	Aug-35	0.16	0.000133236	0.080755	1	
24	Sep-35	0.20	0.000166514	0.023866	1	
25	Oct-35	0.20	0.000166514	0.080740	1	
26	Nov-35	0.16	0.000133236	0.145103	1	
27	Dec-35	0.15	0.000124914	0.059796	1	
28	Jan-36	0.20	0.000166514	0.149369	1	
29	Feb-36	0.20	0.000166514	0.046577	1	
30	Mar-36	0.20	0.000166514	0.004800	1	
31	Apr-36	0.20	0.000166514	-0.121373	0	
32	May-36	0.20	0.000166514	0.051895	1	
33	Jun-36	0.20	0.000166514	-0.000578	0	
34	Jul-36	0.15	0.000124914	0.081854	1	
35	Aug-36	0.20	0.000166514	0.022220	1	
36	Sep-36	0.16	0.000133236	0.033850	1	
37	Oct-36	0.13	0.000108269	0.064899	1	
38	Nov-36	0.11	0.000091620	0.090848	1	
39	Dec-36	0.12	0.000099945	0.030084	1	
40	Jan-37	0.17	0.000141556	0.075777	1	
41	Feb-37	0.15	0.000124914	0.025389	1	
42	Mar-37	0.38	0.000316116	-0.000037	0	
43	Apr-37	0.56	0.000465473	-0.101248	0	
44	May-37	0.41	0.000341026	-0.023833	0	
45	Jun-37	0.36	0.000299506	-0.076140	0	
46	Jul-37	0.28	0.000233034	0.098243	1	
47	Aug-37	0.29	0.000241346	-0.051581	0	
48	Sep-37	0.31	0.000257967	-0.192223	0	
49	Oct-37	0.20	0.000166514	-0.102088	0	
50	Nov-37	0.09	0.000074969	-0.108609	0	
51	Dec-37	0.11	0.000091620	-0.099962	0	
52	Jan-38	0.10	0.000083295	0.043053	1	
53	Feb-38	0.08	0.000066642	0.059460	1	
54	Mar-38	0.08	0.000066642	-0.285612	0	
55	Apr-38	0.09	0.000074969	0.216070	1	
56	May-38	0.05	0.000041657	-0.070239	0	
57	Jun-38	0.05	0.000041657	0.306153	1	
58	Jul-38	0.07	0.000058315	0.121239	1	
59	Aug-38	0.06	0.000049986	-0.062467	0	
60	Sep-38	0.08	0.000066642	-0.015390	0	

Appendix 13
Moving Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
61	Oct-38	0.05	0.000041657	0.145201	1	
62	Nov-38	0.04	0.000033327	-0.036190	0	
63	Dec-38	0.03	0.000024997	0.032274	1	
64	Jan-39	0.03	0.000024997	-0.075517	0	
65	Feb-39	0.03	0.000024997	0.041026	1	
66	Mar-39	0.03	0.000024997	-0.172152	0	
67	Apr-39	0.03	0.000024997	0.001386	1	
68	May-39	0.03	0.000024997	0.086120	1	
69	Jun-39	0.03	0.000024997	-0.084583	0	
70	Jul-39	0.04	0.000033327	0.134705	1	
71	Aug-39	0.05	0.000041657	-0.106282	0	
72	Sep-39	0.14	0.000116592	0.392728	1	
73	Oct-39	0.05	0.000041657	-0.007336	0	
74	Nov-39	0.05	0.000041657	-0.080841	0	
75	Dec-39	0.04	0.000033327	0.016323	1	
76	Jan-40	0.01	0.000008333	-0.018491	0	
77	Feb-40	0.02	0.000016665	0.029486	1	
78	Mar-40	0.02	0.000016665	0.026239	1	
79	Apr-40	0.02	0.000016665	0.015530	1	
80	May-40	0.06	0.000049986	-0.268552	0	
81	Jun-40	0.10	0.000083295	0.066308	1	
82	Jul-40	0.05	0.000041657	0.036894	1	
83	Aug-40	0.04	0.000033327	0.023333	1	
84	Sep-40	0.05	0.000041657	0.037789	1	
85	Oct-40	0.02	0.000016665	0.049223	1	
86	Nov-40	0.02	0.000016665	-0.002018	0	
87	Dec-40	0.02	0.000016665	-0.017094	0	
88	Jan-41	0.02	0.000016665	-0.006876	0	
89	Feb-41	0.04	0.000033327	-0.020483	0	
90	Mar-41	0.11	0.000091620	0.016677	1	
91	Apr-41	0.10	0.000083295	-0.054966	0	
92	May-41	0.11	0.000091620	0.009761	1	
93	Jun-41	0.12	0.000099945	0.067057	1	
94	Jul-41	0.12	0.000099945	0.128690	1	
95	Aug-41	0.13	0.000108269	-0.005861	0	
96	Sep-41	0.10	0.000083295	-0.021119	0	
97	Oct-41	0.09	0.000074969	-0.062217	0	
98	Nov-41	0.28	0.000233034	-0.033320	0	
99	Dec-41	0.33	0.000274585	-0.082162	0	
100	Jan-42	0.27	0.000224722	0.130737	1	
101	Feb-42	0.25	0.000208095	-0.016513	0	
102	Mar-42	0.25	0.000208095	-0.052209	0	
103	Apr-42	0.32	0.000266276	-0.044369	0	
104	May-42	0.37	0.000307812	0.030448	1	
105	Jun-42	0.37	0.000307812	0.023985	1	
106	Jul-42	0.38	0.000316116	0.045939	1	
107	Aug-42	0.38	0.000316116	0.027825	1	
108	Sep-42	0.38	0.000316116	0.048439	1	
109	Oct-42	0.38	0.000316116	0.101545	1	
110	Nov-42	0.38	0.000316116	-0.013671	0	
111	Dec-42	0.38	0.000316116	0.035660	1	
112	Jan-43	0.38	0.000316116	0.167345	1	
113	Feb-43	0.38	0.000316116	0.133544	1	
114	Mar-43	0.38	0.000316116	0.112718	1	
115	Apr-43	0.38	0.000316116	0.035419	1	
116	May-43	0.38	0.000316116	0.084394	1	
117	Jun-43	0.38	0.000316116	0.010798	1	
118	Jul-43	0.38	0.000316116	-0.063956	0	
119	Aug-43	0.38	0.000316116	0.003063	1	
120	Sep-43	0.38	0.000316116	0.034956	1	

Appendix 13
Moving Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
121	Oct-43	0.38	0.000316116	-0.003973	0	
122	Nov-43	0.38	0.000316116	-0.088354	0	
123	Dec-43	0.38	0.000316116	0.098474	1	
124	Jan-44	0.38	0.000316116	0.045564	1	
125	Feb-44	0.38	0.000316116	0.013878	1	
126	Mar-44	0.38	0.000316116	0.041304	1	
127	Apr-44	0.38	0.000316116	-0.028921	0	
128	May-44	0.38	0.000316116	0.066125	1	
129	Jun-44	0.38	0.000316116	0.105428	1	
130	Jul-44	0.38	0.000316116	-0.012595	0	
131	Aug-44	0.38	0.000316116	0.029196	1	
132	Sep-44	0.38	0.000316116	0.000177	0	
133	Oct-44	0.38	0.000316116	0.001415	1	
134	Nov-44	0.38	0.000316116	0.022945	1	
135	Dec-44	0.38	0.000316116	0.069483	1	
136	Jan-45	0.38	0.000316116	0.042912	1	
137	Feb-45	0.38	0.000316116	0.086519	1	
138	Mar-45	0.38	0.000316116	-0.056651	0	
139	Apr-45	0.38	0.000316116	0.088953	1	
140	May-45	0.38	0.000316116	0.029628	1	
141	Jun-45	0.38	0.000316116	0.036966	1	
142	Jul-45	0.38	0.000316116	-0.035179	0	
143	Aug-45	0.38	0.000316116	0.065361	1	
144	Sep-45	0.38	0.000316116	0.062674	1	
145	Oct-45	0.38	0.000316116	0.064646	1	
146	Nov-45	0.38	0.000316116	0.097799	1	
147	Dec-45	0.38	0.000316116	0.023899	1	
148	Jan-46	0.38	0.000316116	0.094391	1	
149	Feb-46	0.38	0.000316116	-0.066914	0	
150	Mar-46	0.38	0.000316116	0.058212	1	
151	Apr-46	0.38	0.000316116	0.051697	1	
152	May-46	0.38	0.000316116	0.054726	1	
153	Jun-46	0.38	0.000316116	-0.048994	0	
154	Jul-46	0.38	0.000316116	-0.040917	0	
155	Aug-46	0.38	0.000316116	-0.075395	0	
156	Sep-46	0.38	0.000316116	-0.135938	0	
157	Oct-46	0.38	0.000316116	-0.011594	0	
158	Nov-46	0.38	0.000316116	-0.002688	0	
159	Dec-46	0.38	0.000316116	0.046884	1	
160	Jan-47	0.38	0.000316116	0.030258	1	
161	Feb-47	0.38	0.000316116	-0.007465	0	
162	Mar-47	0.38	0.000316116	-0.029987	0	
163	Apr-47	0.38	0.000316116	-0.081542	0	
164	May-47	0.38	0.000316116	-0.037234	0	
165	Jun-47	0.38	0.000316116	0.056963	1	
166	Jul-47	0.66	0.000548343	0.061879	1	
167	Aug-47	0.75	0.000622862	-0.017199	0	
168	Sep-47	0.80	0.000664235	0.005749	1	
169	Oct-47	0.85	0.000705589	0.033143	1	
170	Nov-47	0.92	0.000763453	-0.029056	0	
171	Dec-47	0.95	0.000788240	0.021860	1	
172	Jan-48	0.97	0.000804762	-0.015898	0	
173	Feb-48	1.00	0.000829538	-0.059801	0	
174	Mar-48	1.00	0.000829538	0.096071	1	
175	Apr-48	1.00	0.000829538	0.040865	1	
176	May-48	1.00	0.000829538	0.087118	1	
177	Jun-48	1.00	0.000829538	-0.012370	0	
178	Jul-48	1.00	0.000829538	-0.053724	0	
179	Aug-48	1.06	0.000879071	-0.001616	0	
180	Sep-48	1.09	0.000903827	-0.042755	0	

Appendix 13
Moving Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
181	Oct-48	1.12	0.000928576	0.052888	1	
182	Nov-48	1.14	0.000945072	-0.106244	0	
183	Dec-48	1.16	0.000961565	0.014177	1	
184	Jan-49	1.17	0.000969810	0.017924	1	
185	Feb-49	1.17	0.000969810	-0.041333	0	
186	Mar-49	1.17	0.000969810	0.058956	1	
187	Apr-49	1.17	0.000969810	-0.031821	0	
188	May-49	1.17	0.000969810	-0.042723	0	
189	Jun-49	1.17	0.000969810	-0.007950	0	
190	Jul-49	1.02	0.000846052	0.062310	1	
191	Aug-49	1.04	0.000862563	0.025764	1	
192	Sep-49	1.07	0.000887323	0.043705	1	
193	Oct-49	1.05	0.000870817	0.039276	1	
194	Nov-49	1.08	0.000895575	0.010454	1	
195	Dec-49	1.10	0.000912077	0.069966	1	
196	Jan-50	1.07	0.000887323	0.040102	1	
197	Feb-50	1.12	0.000928576	0.015658	1	
198	Mar-50	1.12	0.000928576	-0.001788	0	
199	Apr-50	1.15	0.000953319	0.047735	1	
200	May-50	1.16	0.000961565	0.032819	1	
201	Jun-50	1.15	0.000953319	-0.074923	0	
202	Jul-50	1.16	0.000961565	0.050857	1	
203	Aug-50	1.20	0.000994542	0.052352	1	
204	Sep-50	1.30	0.001076932	0.054639	1	
205	Oct-50	1.31	0.001085166	-0.005599	0	
206	Nov-50	1.36	0.001126330	0.032434	1	
207	Dec-50	1.34	0.001109867	0.083956	1	
208	Jan-51	1.34	0.001109867	0.076381	1	
209	Feb-51	1.36	0.001126330	0.011537	1	
210	Mar-51	1.40	0.001159247	-0.033665	0	
211	Apr-51	1.47	0.001216823	0.040659	1	
212	May-51	1.55	0.001282580	-0.025532	0	
213	Jun-51	1.45	0.001200377	-0.044952	0	
214	Jul-51	1.56	0.001290797	0.063124	1	
215	Aug-51	1.62	0.001340079	0.047509	1	
216	Sep-51	1.63	0.001348290	0.023307	1	
217	Oct-51	1.54	0.001274363	-0.023429	0	
218	Nov-51	1.56	0.001290797	0.007421	1	
219	Dec-51	1.73	0.001430360	0.015198	1	
220	Jan-52	1.57	0.001299012	0.017501	1	
221	Feb-52	1.54	0.001274363	-0.020726	0	
222	Mar-52	1.59	0.001315441	0.029208	1	
223	Apr-52	1.57	0.001299012	-0.044818	0	
224	May-52	1.67	0.001381127	0.023888	1	
225	Jun-52	1.70	0.001405747	0.031099	1	
226	Jul-52	1.81	0.001495963	0.011304	1	
227	Aug-52	1.83	0.001512357	-0.000286	0	
228	Sep-52	1.71	0.001413952	-0.015501	0	
229	Oct-52	1.74	0.001438563	-0.011474	0	
230	Nov-52	1.85	0.001528747	0.055663	1	
231	Dec-52	2.09	0.001725202	0.022709	1	
232	Jan-53	1.96	0.001618842	0.024362	1	
233	Feb-53	1.97	0.001627028	0.011994	1	
234	Mar-53	2.01	0.001659764	-0.010283	0	
235	Apr-53	2.19	0.001806934	-0.024130	0	
236	May-53	2.16	0.001782422	0.005783	1	
237	Jun-53	2.11	0.001741555	-0.031458	0	
238	Jul-53	2.04	0.001684309	0.017600	1	
239	Aug-53	2.04	0.001684309	-0.051682	0	
240	Sep-53	1.79	0.001479567	-0.011163	0	

Appendix 13
Moving Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
241	Oct-53	1.38	0.001142790	0.038012	1	
242	Nov-53	1.44	0.001192152	0.021337	1	
243	Dec-53	1.60	0.001323654	-0.015614	0	
244	Jan-54	1.18	0.000978055	0.071321	1	
245	Feb-54	0.97	0.000804762	0.013861	1	
246	Mar-54	1.03	0.000854308	0.029353	1	
247	Apr-54	0.97	0.000804762	0.016388	1	
248	May-54	0.76	0.000631138	0.043192	1	
249	Jun-54	0.64	0.000531775	0.012067	1	
250	Jul-54	0.72	0.000598029	0.072137	1	
251	Aug-54	0.92	0.000763453	-0.009242	0	
252	Sep-54	1.01	0.000837795	0.044130	1	
253	Oct-54	0.98	0.000813021	-0.006628	0	
254	Nov-54	0.93	0.000771716	0.092005	1	
255	Dec-54	1.15	0.000953319	0.088119	1	
256	Jan-55	1.22	0.001011026	0.014081	1	
257	Feb-55	1.17	0.000969810	0.042937	1	
258	Mar-55	1.28	0.001060460	0.000939	0	
259	Apr-55	1.59	0.001315441	0.022228	1	
260	May-55	1.45	0.001200377	0.008069	1	
261	Jun-55	1.41	0.001167474	0.034707	1	
262	Jul-55	1.60	0.001323654	0.007847	1	
263	Aug-55	1.90	0.001569710	0.005689	1	
264	Sep-55	2.07	0.001708847	-0.007778	0	
265	Oct-55	2.23	0.001839606	-0.017728	0	
266	Nov-55	2.24	0.001847772	0.055276	1	
267	Dec-55	2.54	0.002092418	0.023036	1	
268	Jan-56	2.41	0.001986485	-0.020721	0	
269	Feb-56	2.32	0.001913075	0.033669	1	
270	Mar-56	2.25	0.001855938	0.051392	1	
271	Apr-56	2.60	0.002141268	0.003773	1	
272	May-56	2.61	0.002149407	-0.039689	0	
273	Jun-56	2.49	0.002051689	0.021538	1	
274	Jul-56	2.31	0.001904915	0.039859	1	
275	Aug-56	2.60	0.002141268	-0.017285	0	
276	Sep-56	2.84	0.002336408	-0.036113	0	
277	Oct-56	2.90	0.002385128	0.006800	1	
278	Nov-56	2.99	0.002458159	0.010743	1	
279	Dec-56	3.21	0.002636433	0.017636	1	
280	Jan-57	3.11	0.002555442	0.003465	1	
281	Feb-57	3.10	0.002547339	-0.023077	0	
282	Mar-57	3.08	0.002531131	0.022234	1	
283	Apr-57	3.07	0.002523026	0.025821	1	
284	May-57	3.06	0.002514920	0.021544	1	
285	Jun-57	3.29	0.002701173	-0.006752	0	
286	Jul-57	3.16	0.002595947	0.005961	1	
287	Aug-57	3.37	0.002765868	-0.049852	0	
288	Sep-57	3.53	0.002895119	-0.052206	0	
289	Oct-57	3.58	0.002935473	-0.066185	0	
290	Nov-57	3.31	0.002717351	0.020887	1	
291	Dec-57	3.04	0.002498706	-0.048891	0	
292	Jan-58	2.44	0.002010942	0.106346	1	
293	Feb-58	1.53	0.001266145	-0.011798	0	
294	Mar-58	1.30	0.001076932	0.035981	1	
295	Apr-58	1.13	0.000936825	0.030149	1	
296	May-58	0.91	0.000755189	0.039282	1	
297	Jun-58	0.83	0.000689049	0.031810	1	
298	Jul-58	0.91	0.000755189	0.054290	1	
299	Aug-58	1.69	0.001397541	0.029916	1	
300	Sep-58	2.44	0.002010942	0.052458	1	

Appendix 13
Moving Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
301	Oct-58	2.63	0.002165684	0.032455	1	
302	Nov-58	2.67	0.002198227	0.042046	1	
303	Dec-58	2.77	0.002279536	0.039062	1	
304	Jan-59	2.82	0.002320162	0.041488	1	
305	Feb-59	2.70	0.002222627	0.027492	1	
306	Mar-59	2.80	0.002303914	0.012793	1	
307	Apr-59	2.95	0.002425708	0.025591	1	
308	May-59	2.84	0.002336408	0.007587	1	
309	Jun-59	3.21	0.002636433	0.004492	1	
310	Jul-59	3.20	0.002628337	0.030152	1	
311	Aug-59	3.38	0.002773951	-0.015067	0	
312	Sep-59	4.04	0.003305890	-0.045901	0	
313	Oct-59	4.05	0.003313926	0.023218	1	
314	Nov-59	4.15	0.003394246	0.014870	1	
315	Dec-59	4.49	0.003666805	0.021240	1	
316	Jan-60	4.35	0.003554674	-0.039103	0	
317	Feb-60	3.96	0.003241578	0.008127	1	
318	Mar-60	3.31	0.002717351	-0.024466	0	
319	Apr-60	3.23	0.002652622	-0.019194	0	
320	May-60	3.29	0.002701173	0.025325	1	
321	Jun-60	2.46	0.002027243	0.021360	1	
322	Jul-60	2.30	0.001896754	-0.018074	0	
323	Aug-60	2.30	0.001896754	0.034957	1	
324	Sep-60	2.48	0.002043541	-0.058797	0	
325	Oct-60	2.30	0.001896754	-0.022993	0	
326	Nov-60	2.37	0.001953866	0.046582	1	
327	Dec-60	2.25	0.001855938	0.037387	1	
328	Jan-61	2.24	0.001847772	0.082388	1	
329	Feb-61	2.42	0.001994638	0.059865	1	
330	Mar-61	2.39	0.001970177	0.050442	1	
331	Apr-61	2.29	0.001888592	0.009411	1	
332	May-61	2.29	0.001888592	0.041767	1	
333	Jun-61	2.33	0.001921235	-0.042383	0	
334	Jul-61	2.24	0.001847772	0.011543	1	
335	Aug-61	2.39	0.001970177	0.021117	1	
336	Sep-61	2.28	0.001880429	-0.029770	0	
337	Oct-61	2.30	0.001896754	0.021105	1	
338	Nov-61	2.48	0.002043541	0.046300	1	
339	Dec-61	2.60	0.002141268	-0.003514	0	
340	Jan-62	2.72	0.002238890	-0.007893	0	
341	Feb-62	2.73	0.002247021	0.015444	1	
342	Mar-62	2.72	0.002238890	-0.005939	0	
343	Apr-62	2.73	0.002247021	-0.068055	0	
344	May-62	2.69	0.002214495	-0.098045	0	
345	Jun-62	2.73	0.002247021	-0.084971	0	
346	Jul-62	2.92	0.002401362	0.063777	1	
347	Aug-62	2.82	0.002320162	0.037340	1	
348	Sep-62	2.78	0.002287662	-0.063898	0	
349	Oct-62	2.74	0.002255151	-0.039690	0	
350	Nov-62	2.83	0.002328286	0.121084	1	
351	Dec-62	2.87	0.002360771	-0.025598	0	
352	Jan-63	2.91	0.002393245	0.089144	1	
353	Feb-63	2.92	0.002401362	-0.014477	0	
354	Mar-63	2.89	0.002377010	0.012028	1	
355	Apr-63	2.90	0.002385128	0.026890	1	
356	May-63	2.93	0.002409478	0.032301	1	
357	Jun-63	2.99	0.002458159	-0.010382	0	
358	Jul-63	3.18	0.002612143	-0.006304	0	
359	Aug-63	3.32	0.002725439	0.042305	1	
360	Sep-63	3.38	0.002773951	-0.010373	0	

Appendix 13
Moving Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
361	Oct-63	3.45	0.002830517	0.012209	1	
362	Nov-63	3.52	0.002887047	-0.016140	0	
363	Dec-63	3.52	0.002887047	-0.004225	0	
364	Jan-64	3.52	0.002887047	0.032062	1	
365	Feb-64	3.53	0.002895119	0.025173	1	
366	Mar-64	3.54	0.002903192	0.025510	1	
367	Apr-64	3.47	0.002846672	0.001004	0	
368	May-64	3.48	0.002854748	0.007537	1	
369	Jun-64	3.48	0.002854748	0.010411	1	
370	Jul-64	3.46	0.002838594	0.030161	1	
371	Aug-64	3.50	0.002870899	-0.006038	0	
372	Sep-64	3.53	0.002895119	0.038260	1	
373	Oct-64	3.57	0.002927404	0.018821	1	
374	Nov-64	3.64	0.002983874	-0.000516	0	
375	Dec-64	3.84	0.003145024	-0.012365	0	
376	Jan-65	3.81	0.003120870	0.071403	1	
377	Feb-65	3.93	0.003217449	0.032325	1	
378	Mar-65	3.93	0.003217449	0.015410	1	
379	Apr-65	3.93	0.003217449	0.041560	1	
380	May-65	3.89	0.003185267	-0.005845	0	
381	Jun-65	3.80	0.003112817	-0.083718	0	
382	Jul-65	3.84	0.003145024	0.028633	1	
383	Aug-65	3.84	0.003145024	0.041844	1	
384	Sep-65	3.92	0.003209405	0.027420	1	
385	Oct-65	4.03	0.003297854	0.058679	1	
386	Nov-65	4.09	0.003346063	0.046543	1	
387	Dec-65	4.38	0.003578713	0.042960	1	
388	Jan-66	4.59	0.003746815	0.064170	1	0.630208
389	Feb-66	4.65	0.003794787	0.028865	1	0.631169
390	Mar-66	4.59	0.003746815	-0.008889	0	0.632124
391	Apr-66	4.62	0.003770804	0.046619	1	0.630491
392	May-66	4.64	0.003786794	-0.086074	0	0.631443
393	Jun-66	4.50	0.003674809	-0.004980	0	0.629820
394	Jul-66	4.80	0.003914608	-0.016316	0	0.628205
395	Aug-66	4.96	0.004042243	-0.100714	0	0.626598
396	Sep-66	5.37	0.004368496	-0.018161	0	0.625000
397	Oct-66	5.35	0.004352608	-0.014385	0	0.623410
398	Nov-66	5.32	0.004328771	0.040727	1	0.621827
399	Dec-66	4.96	0.004042243	0.017306	1	0.622785
400	Jan-67	4.72	0.003850723	0.172103	1	0.623737
401	Feb-67	4.56	0.003722819	0.042368	1	0.624685
402	Mar-67	4.26	0.003482516	0.058244	1	0.625628
403	Apr-67	3.84	0.003145024	0.041909	1	0.626566
404	May-67	3.60	0.002951609	-0.008097	0	0.627500
405	Jun-67	3.54	0.002903192	0.081963	1	0.625935
406	Jul-67	4.21	0.003442404	0.083250	1	0.626866
407	Aug-67	4.27	0.003490536	0.006312	1	0.627792
408	Sep-67	4.42	0.003610757	0.062963	1	0.628713
409	Oct-67	4.56	0.003722819	-0.020594	0	0.629630
410	Nov-67	4.73	0.003858711	0.000877	0	0.628079
411	Dec-67	4.97	0.004050214	0.080445	1	0.626536
412	Jan-68	5.00	0.004074124	0.023900	1	0.627451
413	Feb-68	4.98	0.004058185	-0.058118	0	0.628362
414	Mar-68	5.17	0.004209494	-0.011222	0	0.626829
415	Apr-68	5.38	0.004376439	0.143031	1	0.625304
416	May-68	5.66	0.004598558	0.091309	1	0.626214
417	Jun-68	5.52	0.004487566	0.016224	1	0.627119
418	Jul-68	5.31	0.004320824	-0.026205	0	0.628019
419	Aug-68	5.09	0.004145815	0.035918	1	0.626506
420	Sep-68	5.19	0.004225406	0.068808	1	0.627404

Appendix 13
Moving Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
421	Oct-68	5.35	0.004352608	0.006859	1	0.628297
422	Nov-68	5.45	0.004432019	0.072011	1	0.629187
423	Dec-68	5.96	0.004835945	0.005910	1	0.630072
424	Jan-69	6.14	0.004978082	-0.001688	0	0.630952
425	Feb-69	6.12	0.004962300	-0.085726	0	0.629454
426	Mar-69	6.02	0.004883349	0.020289	1	0.627962
427	Apr-69	6.11	0.004954408	0.003494	0	0.628842
428	May-69	6.04	0.004899145	0.006265	1	0.627358
429	Jun-69	6.44	0.005214487	-0.113404	0	0.628235
430	Jul-69	7.00	0.005654145	-0.095823	0	0.626761
431	Aug-69	6.98	0.005638480	0.052187	1	0.625293
432	Sep-69	7.09	0.005724608	-0.024618	0	0.626168
433	Oct-69	7.00	0.005654145	0.092414	1	0.624709
434	Nov-69	7.24	0.005841925	-0.055079	0	0.625581
435	Dec-69	7.82	0.006294141	-0.066178	0	0.624130
436	Jan-70	7.87	0.006333020	-0.038830	0	0.622685
437	Feb-70	7.13	0.005755907	0.040195	1	0.621247
438	Mar-70	6.63	0.005363894	-0.023673	0	0.622120
439	Apr-70	6.51	0.005269560	-0.161963	0	0.620690
440	May-70	6.84	0.005528744	-0.090523	0	0.619266
441	Jun-70	6.68	0.005403171	-0.073903	0	0.617849
442	Jul-70	6.45	0.005222356	0.059260	1	0.616438
443	Aug-70	6.41	0.005190874	0.061617	1	0.617312
444	Sep-70	6.12	0.004962300	0.126096	1	0.618182
445	Oct-70	5.91	0.004796424	-0.058604	0	0.619048
446	Nov-70	5.28	0.004296979	0.003021	0	0.617647
447	Dec-70	4.87	0.003970470	0.081321	1	0.616253
448	Jan-71	4.44	0.003626774	0.136097	1	0.617117
449	Feb-71	3.70	0.003032249	0.047915	1	0.617978
450	Mar-71	3.38	0.002773951	0.056603	1	0.618834
451	Apr-71	3.86	0.003161124	0.027087	1	0.619687
452	May-71	4.14	0.003386217	-0.049431	0	0.620536
453	Jun-71	4.75	0.003874685	-0.017240	0	0.619154
454	Jul-71	5.40	0.004392322	-0.053635	0	0.617778
455	Aug-71	4.94	0.004026298	0.041077	1	0.616408
456	Sep-71	4.69	0.003826755	-0.004653	0	0.617257
457	Oct-71	4.46	0.003642789	-0.057468	0	0.615894
458	Nov-71	4.22	0.003450428	-0.034150	0	0.614537
459	Dec-71	4.01	0.003281778	0.117128	1	0.613187
460	Jan-72	3.38	0.002773951	0.103892	1	0.614035
461	Feb-72	3.20	0.002628337	0.041809	1	0.614880
462	Mar-72	3.73	0.003056427	-0.000951	0	0.615721
463	Apr-72	3.71	0.003040309	0.001231	0	0.614379
464	May-72	3.69	0.003024188	-0.018122	0	0.613043
465	Jun-72	3.91	0.003201360	-0.033775	0	0.611714
466	Jul-72	3.98	0.003257660	-0.029489	0	0.610390
467	Aug-72	4.02	0.003289816	0.012252	1	0.609071
468	Sep-72	4.66	0.003802780	-0.030725	0	0.609914
469	Oct-72	4.74	0.003866698	-0.013767	0	0.608602
470	Nov-72	4.78	0.003898641	0.051097	1	0.607296
471	Dec-72	5.07	0.004129889	-0.019873	0	0.608137
472	Jan-73	5.41	0.004400263	-0.026173	0	0.606838
473	Feb-73	5.60	0.004551007	-0.072856	0	0.605544
474	Mar-73	6.09	0.004938622	-0.029021	0	0.604255
475	Apr-73	6.26	0.005072717	-0.070657	0	0.602972
476	May-73	6.36	0.005151505	-0.083586	0	0.601695
477	Jun-73	7.19	0.005802836	-0.037774	0	0.600423
478	Jul-73	8.01	0.006441795	0.105953	1	0.599156
479	Aug-73	8.67	0.006952858	-0.044402	0	0.600000
480	Sep-73	8.29	0.006658959	0.073015	1	0.598739

Appendix 13
Moving Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
481	Oct-73	7.22	0.005826292	0.000315	0	0.599581
482	Nov-73	7.83	0.006301918	-0.175249	0	0.598326
483	Dec-73	7.45	0.006005917	-0.041833	0	0.597077
484	Jan-74	7.77	0.006255245	0.132290	1	0.595833
485	Feb-74	7.12	0.005748083	0.008559	1	0.596674
486	Mar-74	7.96	0.006402962	0.008371	1	0.597510
487	Apr-74	8.33	0.006689940	-0.055505	0	0.598344
488	May-74	8.23	0.006612467	-0.072558	0	0.597107
489	Jun-74	7.90	0.006356340	-0.033485	0	0.595876
490	Jul-74	7.55	0.006083905	-0.051935	0	0.594650
491	Aug-74	8.96	0.007176517	-0.085820	0	0.593429
492	Sep-74	8.06	0.006480612	-0.078985	0	0.592213
493	Oct-74	7.46	0.006013719	0.088990	1	0.591002
494	Nov-74	7.47	0.006021520	-0.051352	0	0.591837
495	Dec-74	7.15	0.005771553	-0.080724	0	0.590631
496	Jan-75	6.26	0.005072717	0.299221	1	0.589431
497	Feb-75	5.50	0.004471699	0.053978	1	0.590264
498	Mar-75	5.49	0.004463764	0.081546	1	0.591093
499	Apr-75	5.61	0.004558934	0.031115	1	0.591919
500	May-75	5.23	0.004257223	0.072907	1	0.592742
501	Jun-75	5.34	0.004344663	0.071790	1	0.593561
502	Jul-75	6.13	0.004970192	-0.008976	0	0.594378
503	Aug-75	6.44	0.005214487	-0.048105	0	0.593186
504	Sep-75	6.42	0.005198745	-0.038883	0	0.592000
505	Oct-75	5.96	0.004835945	0.014703	1	0.590818
506	Nov-75	5.48	0.004455829	0.016844	1	0.591633
507	Dec-75	5.44	0.004424081	-0.000578	0	0.592445
508	Jan-76	4.87	0.003970470	0.190032	1	0.591270
509	Feb-76	4.88	0.003978448	0.106222	1	0.592079
510	Mar-76	5.00	0.004074124	0.018173	1	0.592885
511	Apr-76	4.86	0.003962492	-0.003804	0	0.593688
512	May-76	5.20	0.004233362	-0.019671	0	0.592520
513	Jun-76	5.41	0.004400263	0.026517	1	0.591356
514	Jul-76	5.23	0.004257223	0.002234	0	0.592157
515	Aug-76	5.14	0.004185619	-0.016677	0	0.590998
516	Sep-76	5.08	0.004137852	0.017009	1	0.589844
517	Oct-76	4.92	0.004010351	-0.022569	0	0.590643
518	Nov-76	4.75	0.003874685	0.026643	1	0.589494
519	Dec-76	4.35	0.003554674	0.102563	1	0.590291
520	Jan-77	4.62	0.003770804	0.036887	1	0.591085
521	Feb-77	4.67	0.003810772	0.004426	1	0.591876
522	Mar-77	4.60	0.003754812	0.010626	1	0.592664
523	Apr-77	4.54	0.003706819	0.016916	1	0.593449
524	May-77	4.96	0.004042243	0.002880	0	0.594231
525	Jun-77	5.02	0.004090060	0.051598	1	0.593090
526	Jul-77	5.19	0.004225406	0.012366	1	0.593870
527	Aug-77	5.49	0.004463764	-0.001233	0	0.594646
528	Sep-77	5.81	0.004717329	0.015021	1	0.593511
529	Oct-77	6.16	0.004993862	-0.023168	0	0.594286
530	Nov-77	6.10	0.004946515	0.070896	1	0.593156
531	Dec-77	6.07	0.004922833	0.021099	1	0.593928
532	Jan-78	6.44	0.005214487	-0.011196	0	0.594697
533	Feb-78	6.45	0.005222356	0.026044	1	0.593573
534	Mar-78	6.29	0.005096361	0.067868	1	0.594340
535	Apr-78	6.29	0.005096361	0.079294	1	0.595104
536	May-78	6.41	0.005190874	0.067630	1	0.595865
537	Jun-78	6.73	0.005442431	0.010288	1	0.596623
538	Jul-78	7.01	0.005661977	0.052383	1	0.597378
539	Aug-78	7.08	0.005716782	0.083574	1	0.598131
540	Sep-78	7.85	0.006317470	0.006062	0	0.598881

Appendix 13
Moving Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
541	Oct-78	7.99	0.006426264	-0.177326	0	0.597765
542	Nov-78	8.64	0.006929690	0.038224	1	0.596654
543	Dec-78	9.08	0.007268905	0.014350	1	0.597403
544	Jan-79	9.35	0.007476440	0.093735	1	0.598148
545	Feb-79	9.32	0.007453404	-0.016314	0	0.598891
546	Mar-79	9.48	0.007576197	0.084126	1	0.597786
547	Apr-79	9.46	0.007560857	0.028872	1	0.598527
548	May-79	9.61	0.007675845	-0.007005	0	0.599265
549	Jun-79	9.06	0.007253514	0.054593	1	0.598165
550	Jul-79	9.24	0.007391946	0.021341	1	0.598901
551	Aug-79	9.52	0.007606869	0.075539	1	0.599634
552	Sep-79	10.26	0.008172466	-0.001260	0	0.600365
553	Oct-79	11.70	0.009263184	-0.097858	0	0.599271
554	Nov-79	11.79	0.009330925	0.065408	1	0.598182
555	Dec-79	12.04	0.009518832	0.067195	1	0.598911
556	Jan-80	12.00	0.009488793	0.105038	1	0.599638
557	Feb-80	12.86	0.010132483	-0.006299	0	0.600362
558	Mar-80	15.20	0.011861426	-0.165083	0	0.599278
559	Apr-80	13.20	0.010385726	0.053579	1	0.598198
560	May-80	8.58	0.006883336	0.071098	1	0.598921
561	Jun-80	7.07	0.005708954	0.046212	1	0.599641
562	Jul-80	8.06	0.006480612	0.089399	1	0.600358
563	Aug-80	9.13	0.007307373	0.063740	1	0.601073
564	Sep-80	10.27	0.008180085	0.052561	1	0.601786
565	Oct-80	11.62	0.009202927	0.047444	1	0.602496
566	Nov-80	13.73	0.010779100	0.069146	1	0.603203
567	Dec-80	15.49	0.012073449	-0.032432	0	0.603908
568	Jan-81	15.02	0.011729578	0.005590	0	0.602837
569	Feb-81	14.79	0.011560831	0.002066	0	0.601770
570	Mar-81	13.36	0.010504658	0.072659	1	0.600707
571	Apr-81	13.69	0.010749470	0.028016	1	0.601411
572	May-81	16.30	0.012663079	0.027211	1	0.602113
573	Jun-81	14.73	0.011516759	-0.013080	0	0.602812
574	Jul-81	14.95	0.011678253	-0.019781	0	0.601754
575	Aug-81	15.51	0.012088054	-0.071918	0	0.600701
576	Sep-81	14.70	0.011494715	-0.089783	0	0.599650
577	Oct-81	13.54	0.010638273	0.069862	1	0.598604
578	Nov-81	10.86	0.008628509	0.021704	1	0.599303
579	Dec-81	10.85	0.008620927	-0.019629	0	0.600000
580	Jan-82	12.28	0.009698863	-0.017217	0	0.598958
581	Feb-82	13.48	0.010593756	-0.047775	0	0.597920
582	Mar-82	12.68	0.009998130	-0.012073	0	0.596886
583	Apr-82	12.70	0.010013068	0.052454	1	0.595855
584	May-82	12.09	0.009556368	-0.022200	0	0.596552
585	Jun-82	12.47	0.009841136	-0.036616	0	0.595525
586	Jul-82	11.35	0.008999269	-0.014985	0	0.594502
587	Aug-82	8.68	0.006960580	0.063405	1	0.593482
588	Sep-82	7.92	0.006371883	0.032885	1	0.594178
589	Oct-82	7.71	0.006208547	0.128619	1	0.594872
590	Nov-82	8.07	0.006488374	0.092036	1	0.595563
591	Dec-82	7.94	0.006387424	0.022644	1	0.596252
592	Jan-83	7.86	0.006325246	0.109106	1	0.596939
593	Feb-83	8.11	0.006519413	0.052681	1	0.597623
594	Mar-83	8.35	0.006705427	0.050214	1	0.598305
595	Apr-83	8.21	0.006596965	0.081444	1	0.598985
596	May-83	8.19	0.006581459	0.090840	1	0.599662
597	Jun-83	8.79	0.007045473	0.048799	1	0.600337
598	Jul-83	9.08	0.007268905	-0.017980	0	0.601010
599	Aug-83	9.34	0.007468762	-0.033538	0	0.600000
600	Sep-83	9.00	0.007207323	0.002960	0	0.598993

Appendix 13
Moving Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
601	Oct-83	8.64	0.006929690	-0.056570	0	0.597990
602	Nov-83	8.76	0.007022328	0.030606	1	0.596990
603	Dec-83	9.00	0.007207323	-0.019332	0	0.597663
604	Jan-84	8.90	0.007130287	0.005688	0	0.596667
605	Feb-84	9.09	0.007276600	-0.053818	0	0.595674
606	Mar-84	9.52	0.007606869	0.007093	0	0.594684
607	Apr-84	9.69	0.007737113	-0.019455	0	0.593698
608	May-84	9.83	0.007844234	-0.050766	0	0.592715
609	Jun-84	9.87	0.007874816	0.013851	1	0.591736
610	Jul-84	10.12	0.008065729	-0.047479	0	0.592409
611	Aug-84	10.47	0.008332339	0.089623	1	0.591433
612	Sep-84	10.37	0.008256244	0.000260	0	0.592105
613	Oct-84	9.74	0.007775385	-0.020953	0	0.591133
614	Nov-84	8.61	0.006906516	-0.031390	0	0.590164
615	Dec-84	8.06	0.006480612	0.005083	0	0.589198
616	Jan-85	7.76	0.006247463	0.122783	1	0.588235
617	Feb-85	8.27	0.006643464	0.047157	1	0.588907
618	Mar-85	8.52	0.006836958	-0.008492	0	0.589577
619	Apr-85	7.95	0.006395193	-0.011322	0	0.588618
620	May-85	7.48	0.006029320	0.022982	1	0.587662
621	Jun-85	6.95	0.005614976	0.003482	0	0.588331
622	Jul-85	7.08	0.005716782	0.019458	1	0.587379
623	Aug-85	7.14	0.005763730	-0.003306	0	0.588045
624	Sep-85	7.10	0.005732434	-0.056222	0	0.587097
625	Oct-85	7.16	0.005779375	0.019001	1	0.586151
626	Nov-85	7.24	0.005841925	0.053335	1	0.586817
627	Dec-85	7.10	0.005732434	0.029199	1	0.587480
628	Jan-86	7.07	0.005708954	0.043401	1	0.588141
629	Feb-86	7.06	0.005701126	0.062372	1	0.588800
630	Mar-86	6.56	0.005308877	0.047744	1	0.589457
631	Apr-86	6.06	0.004914938	0.015674	1	0.590112
632	May-86	6.15	0.004985972	0.036680	1	0.590764
633	Jun-86	6.21	0.005033298	0.008864	1	0.591415
634	Jul-86	5.83	0.004733153	-0.073591	0	0.592063
635	Aug-86	5.53	0.004495498	0.022140	1	0.591125
636	Sep-86	5.21	0.004241316	-0.060467	0	0.591772
637	Oct-86	5.18	0.004217450	0.024537	1	0.590837
638	Nov-86	5.35	0.004352608	-0.006301	0	0.591483
639	Dec-86	5.53	0.004495498	-0.034537	0	0.590551
640	Jan-87	5.43	0.004416143	0.116898	1	0.589623
641	Feb-87	5.59	0.004543079	0.074949	1	0.590267
642	Mar-87	5.59	0.004543079	0.033141	1	0.590909
643	Apr-87	5.64	0.004582710	-0.019600	0	0.591549
644	May-87	5.66	0.004598558	0.000723	0	0.590625
645	Jun-87	5.67	0.004606481	0.021912	1	0.589704
646	Jul-87	5.69	0.004622325	0.034751	1	0.590343
647	Aug-87	6.04	0.004899145	0.015680	1	0.590980
648	Sep-87	6.40	0.005183001	-0.015563	0	0.591615
649	Oct-87	6.13	0.004970192	-0.270875	0	0.590698
650	Nov-87	5.69	0.004622325	-0.052393	0	0.589783
651	Dec-87	5.77	0.004685672	0.028093	1	0.588872
652	Jan-88	5.81	0.004717329	0.078073	1	0.589506
653	Feb-88	5.66	0.004598558	0.062058	1	0.590139
654	Mar-88	5.70	0.004630246	0.034338	1	0.590769
655	Apr-88	5.91	0.004796424	0.015169	1	0.591398
656	May-88	6.26	0.005072717	-0.017122	0	0.592025
657	Jun-88	6.46	0.005230225	0.048424	1	0.591118
658	Jul-88	6.73	0.005442431	0.000491	0	0.591743
659	Aug-88	7.06	0.005701126	-0.023705	0	0.590840
660	Sep-88	7.24	0.005841925	0.018792	1	0.589939

Appendix 13
Moving Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
661	Oct-88	7.35	0.005927862	-0.011757	0	0.590563
662	Nov-88	7.76	0.006247463	-0.036799	0	0.589666
663	Dec-88	8.07	0.006488374	0.019601	1	0.588771
664	Jan-89	8.27	0.006643464	0.063253	1	0.589394
665	Feb-89	8.53	0.006844689	0.002709	0	0.590015
666	Mar-89	8.82	0.007068612	0.016953	1	0.589124
667	Apr-89	8.65	0.006937413	0.030763	1	0.589744
668	May-89	8.43	0.006767347	0.027435	1	0.590361
669	Jun-89	8.15	0.006550441	-0.008271	0	0.590977
670	Jul-89	7.88	0.006340794	0.031489	1	0.590090
671	Aug-89	7.90	0.006356340	0.019273	1	0.590705
672	Sep-89	7.75	0.006239681	0.004573	0	0.591317
673	Oct-89	7.64	0.006154037	-0.050967	0	0.590433
674	Nov-89	7.69	0.006192976	-0.008113	0	0.589552
675	Dec-89	7.63	0.006146247	-0.012152	0	0.588674
676	Jan-90	7.64	0.006154037	-0.045868	0	0.587798
677	Feb-90	7.74	0.006231899	0.015867	1	0.586924
678	Mar-90	7.90	0.006356340	0.022186	1	0.587537
679	Apr-90	7.77	0.006255245	-0.026743	0	0.588148
680	May-90	7.74	0.006231899	0.046710	1	0.587278
681	Jun-90	7.73	0.006224116	0.005421	0	0.587888
682	Jul-90	7.62	0.006138457	-0.027254	0	0.587021
683	Aug-90	7.45	0.006005917	-0.109887	0	0.586156
684	Sep-90	7.36	0.005935671	-0.080449	0	0.585294
685	Oct-90	7.17	0.005787196	-0.056236	0	0.584435
686	Nov-90	7.06	0.005701126	0.036660	1	0.583578
687	Dec-90	6.74	0.005450281	-0.003825	0	0.584187
688	Jan-91	6.22	0.005041183	0.085290	1	0.583333
689	Feb-91	5.94	0.004820139	0.133728	1	0.583942
690	Mar-91	5.91	0.004796424	0.078008	1	0.584548
691	Apr-91	5.65	0.004590635	0.030970	1	0.585153
692	May-91	5.46	0.004439957	0.030289	1	0.585756
693	Jun-91	5.57	0.004527222	-0.034482	0	0.586357
694	Jul-91	5.58	0.004535151	0.034965	1	0.585507
695	Aug-91	5.33	0.004336718	0.028569	1	0.586107
696	Sep-91	5.22	0.004249270	0.008659	1	0.586705
697	Oct-91	4.99	0.004066155	0.023892	1	0.587302
698	Nov-91	4.56	0.003722819	-0.025440	0	0.587896
699	Dec-91	4.07	0.003329996	0.036613	1	0.587050
700	Jan-92	3.80	0.003112817	0.149572	1	0.587644
701	Feb-92	3.84	0.003145024	0.051947	1	0.588235
702	Mar-92	4.04	0.003305890	-0.014197	0	0.588825
703	Apr-92	3.75	0.003072542	-0.032918	0	0.587983
704	May-92	3.63	0.002975809	0.005418	1	0.587143
705	Jun-92	3.66	0.003000002	-0.039692	0	0.587732
706	Jul-92	3.21	0.002636433	0.027176	1	0.586895
707	Aug-92	3.13	0.002571646	-0.024521	0	0.587482
708	Sep-92	2.91	0.002393245	0.012018	1	0.586648
709	Oct-92	2.86	0.002352651	0.016250	1	0.587234
710	Nov-92	3.13	0.002571646	0.067777	1	0.587819
711	Dec-92	3.22	0.002644528	0.035695	1	0.588402
712	Jan-93	3.00	0.002466270	0.066814	1	0.588983
713	Feb-93	2.93	0.002409478	-0.007958	0	0.589563
714	Mar-93	2.95	0.002425708	0.030881	1	0.588732
715	Apr-93	2.87	0.002360771	-0.012853	0	0.589311
716	May-93	2.96	0.002433822	0.038037	1	0.588483
717	Jun-93	3.07	0.002523026	0.012056	1	0.589060
718	Jul-93	3.04	0.002498706	0.014061	1	0.589636
719	Aug-93	3.02	0.002482489	0.040415	1	0.590210
720	Sep-93	2.95	0.002425708	0.025878	1	0.590782

Appendix 13
Moving Probability (Equal Weighted Returns > T-bills)

	A	B	C	D	E	F
721	Oct-93	3.02	0.002482489	0.040201	1	0.591353
722	Nov-93	3.10	0.002547339	-0.024537	0	0.591922
723	Dec-93	3.06	0.002514920	0.016153	1	0.591099
724	Jan-94	2.98	0.002450047	0.048897	1	0.591667
725	Feb-94	3.25	0.002668809	-0.009569	0	0.592233
726	Mar-94	3.50	0.002870899	-0.046033	0	0.591413
727	Apr-94	3.68	0.003016127	-0.011011	0	0.590595
728	May-94	4.14	0.003386217	-0.000447	0	0.589779
729	Jun-94	4.14	0.003386217	-0.026459	0	0.588966
730	Jul-94	4.33	0.003538643	0.015439	1	0.588154
731	Aug-94	4.48	0.003658800	0.036842	1	0.588721
732	Sep-94	4.62	0.003770804	0.004556	1	0.589286
733	Oct-94	4.95	0.004034271	-0.002367	0	0.589849
734	Nov-94	5.29	0.004304928	-0.040653	0	0.589041
735	Dec-94	5.60	0.004551007	-0.012864	0	0.588235
736	Jan-95	5.71	0.004638166	0.027644	1	0.587432
737	Feb-95	5.77	0.004685672	0.028008	1	0.587995
738	Mar-95	5.73	0.004654004	0.018717	1	0.588556
739	Apr-95	5.65	0.004590635	0.026017	1	0.589116
740	May-95	5.67	0.004606481	0.020496	1	0.589674
741	Jun-95	5.47	0.004447893	0.048681	1	0.590231
742	Jul-95	5.42	0.004408203	0.055137	1	0.590786
743	Aug-95	5.40	0.004392322	0.030255	1	0.591340
744	Sep-95	5.28	0.004296979	0.025919	1	0.591892
745	Oct-95	5.28	0.004296979	-0.040528	0	0.592443
746	Nov-95	5.36	0.004360552	0.017244	1	0.591644
747	Dec-95	5.14	0.004185619	0.009816	1	0.592194
748	Jan-96	5.00	0.004074124	0.033370	1	0.592742
749	Feb-96	4.83	0.003938553	0.031571	1	0.593289
750	Mar-96	4.96	0.004042243	0.024126	1	0.593834
751	Apr-96	4.95	0.004034271	0.057383	1	0.594378
752	May-96	5.02	0.004090060	0.060966	1	0.594920
753	Jun-96	5.09	0.004145815	-0.030639	0	0.595461
754	Jul-96	5.15	0.004193578	-0.078673	0	0.594667
755	Aug-96	5.05	0.004113959	0.044778	1	0.593875
756	Sep-96	5.09	0.004145815	0.028977	1	0.594415
757	Oct-96	4.99	0.004066155	-0.019994	0	0.594954
758	Nov-96	5.03	0.004098027	0.024713	1	0.594164
759	Dec-96	4.91	0.004002376	-0.001327	0	0.594702
760	Jan-97	5.03	0.004098027	0.061661	1	0.593915
761	Feb-97	5.01	0.004082092	-0.010435	0	0.594452
762	Mar-97	5.14	0.004185619	-0.047888	0	0.593668
763	Apr-97	5.16	0.004201536	-0.021343	0	0.592885
764	May-97	5.05	0.004113959	0.085143	1	0.592105
765	Jun-97	4.93	0.004018325	0.044181	1	0.592641
766	Jul-97	5.05	0.004113959	0.048563	1	0.593176
767	Aug-97	5.14	0.004185619	0.027061	1	0.593709
768	Sep-97	4.95	0.004034271	0.081392	1	0.594241
769	Oct-97	4.97	0.004050214	-0.025680	0	0.594771
770	Nov-97	5.14	0.004185619	-0.019787	0	0.593995
771	Dec-97	5.16	0.004201536	-0.022614	0	0.593220

Appendix 14
Relative Frequency (Probability Equal Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Equal Weighted Returns											Bin	Frequency	Cumulative %
2												0.0023	145	37.86%
3	Date	3 Month										0.0025	0	37.86%
4	(Month-Year)	T-Bill Rate	d									0.0027	0	37.86%
5	Jan-66	4.59	0.003746815	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0029	0	37.86%
6	Feb-66	4.65	0.003794787	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0031	1	38.12%
7	Mar-66	4.59	0.003746815	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0033	0	38.12%
8	Apr-66	4.62	0.003770804	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0035	2	38.64%
9	May-66	4.64	0.003786794	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0037	0	38.64%
10	Jun-66	4.50	0.003674809	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.0039	1	38.90%
11	Jul-66	4.80	0.003914608	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0041	0	38.90%
12	Aug-66	4.96	0.004042243	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0043	0	38.90%
13	Sep-66	5.37	0.004368496	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0045	1	39.16%
14	Oct-66	5.35	0.004352608	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0047	0	39.16%
15	Nov-66	5.32	0.004328771	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0049	1	39.43%
16	Dec-66	4.96	0.004042243	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0051	0	39.43%
17	Jan-67	4.72	0.003850723	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0053	0	39.43%
18	Feb-67	4.56	0.003722819	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0055	0	39.43%
19	Mar-67	4.26	0.003482516	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.0057	1	39.69%
20	Apr-67	3.84	0.003145024	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.0059	2	40.21%
21	May-67	3.60	0.002951609	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.0061	1	40.47%
22	Jun-67	3.54	0.002903192	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.0063	0	40.47%
23	Jul-67	4.21	0.003442404	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.0065	0	40.47%
24	Aug-67	4.27	0.003490536	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.0067	0	40.47%
25	Sep-67	4.42	0.003610757	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.0069	1	40.73%
26	Oct-67	4.56	0.003722819	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0071	0	40.73%
27	Nov-67	4.73	0.003858711	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0073	0	40.73%
28	Dec-67	4.97	0.004050214	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0075	1	40.99%
29	Jan-68	5.00	0.004074124	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0077	3	41.78%
30	Feb-68	4.98	0.004058185	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0079	1	42.04%
31	Mar-68	5.17	0.004209494	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0081	1	42.30%
32	Apr-68	5.38	0.004376439	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0083	1	42.56%
33	May-68	5.66	0.004598558	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0085	0	42.56%
34	Jun-68	5.52	0.004487566	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0087	0	42.56%
35	Jul-68	5.31	0.004320824	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0089	0	42.56%
36	Aug-68	5.09	0.004145815	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0091	0	42.56%
37	Sep-68	5.19	0.004225406	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.0093	0	42.56%
38	Oct-68	5.35	0.004352608	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0095	1	42.82%
39	Nov-68	5.45	0.004432019	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.0097	0	42.82%
40	Dec-68	5.96	0.004835945	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.0099	1	43.08%
41	Jan-69	6.14	0.004978082	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.0101	1	43.34%
42	Feb-69	6.12	0.004962300	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.0103	0	43.34%
43	Mar-69	6.02	0.004883349	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.0105	2	43.86%
44	Apr-69	6.11	0.004954408	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.0107	0	43.86%
45	May-69	6.04	0.004899145	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.0109	2	44.39%

Appendix 14
Relative Frequency (Probability Equal Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
46	Jun-69	6.44	0.005214487	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.0111	0	44.39%
47	Jul-69	7.00	0.005654145	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.0113	0	44.39%
48	Aug-69	6.98	0.005638480	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.0115	1	44.65%
49	Sep-69	7.09	0.005724608	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.0117	2	45.17%
50	Oct-69	7.00	0.005654145	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.0119	0	45.17%
51	Nov-69	7.24	0.005841925	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.0121	3	45.95%
52	Dec-69	7.82	0.006294141	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.0123	1	46.21%
53	Jan-70	7.87	0.006333020	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.0125	0	46.21%
54	Feb-70	7.13	0.005755907	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.0127	0	46.21%
55	Mar-70	6.63	0.005363894	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	More	206	100.00%
56	Apr-70	6.51	0.005269560	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
57	May-70	6.84	0.005528744	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133			
58	Jun-70	6.68	0.005403171	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
59	Jul-70	6.45	0.005222356	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
60	Aug-70	6.41	0.005190874	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
61	Sep-70	6.12	0.004962300	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
62	Oct-70	5.91	0.004796424	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
63	Nov-70	5.28	0.004296979	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
64	Dec-70	4.87	0.003970470	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
65	Jan-71	4.44	0.003626774	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577			
66	Feb-71	3.70	0.003032249	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
67	Mar-71	3.38	0.002773951	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
68	Apr-71	3.86	0.003161124	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
69	May-71	4.14	0.003386217	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577			
70	Jun-71	4.75	0.003874685	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
71	Jul-71	5.40	0.004392322	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
72	Aug-71	4.94	0.004026298	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
73	Sep-71	4.69	0.003826755	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
74	Oct-71	4.46	0.003642789	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577			
75	Nov-71	4.22	0.003450428	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577			
76	Dec-71	4.01	0.003281778	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
77	Jan-72	3.38	0.002773951	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
78	Feb-72	3.20	0.002628337	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
79	Mar-72	3.73	0.003056427	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
80	Apr-72	3.71	0.003040309	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
81	May-72	3.69	0.003024188	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
82	Jun-72	3.91	0.003201360	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
83	Jul-72	3.98	0.003257660	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
84	Aug-72	4.02	0.003289816	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
85	Sep-72	4.66	0.003802780	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
86	Oct-72	4.74	0.003866698	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
87	Nov-72	4.78	0.003898641	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
88	Dec-72	5.07	0.004129889	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
89	Jan-73	5.41	0.004400263	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			

Appendix 14
Relative Frequency (Probability Equal Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
90	Feb-73	5.60	0.004551007	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355
91	Mar-73	6.09	0.004938622	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
92	Apr-73	6.26	0.005072717	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
93	May-73	6.36	0.005151505	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
94	Jun-73	7.19	0.005802836	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
95	Jul-73	8.01	0.006441795	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
96	Aug-73	8.67	0.006952858	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689
97	Sep-73	8.29	0.006658959	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
98	Oct-73	7.22	0.005826292	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
99	Nov-73	7.83	0.006301918	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
100	Dec-73	7.45	0.006005917	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
101	Jan-74	7.77	0.006255245	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
102	Feb-74	7.12	0.005748083	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
103	Mar-74	7.96	0.006402982	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
104	Apr-74	8.33	0.006689940	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
105	May-74	8.23	0.006612467	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
106	Jun-74	7.90	0.006356340	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
107	Jul-74	7.55	0.006083905	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
108	Aug-74	8.96	0.007176517	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689
109	Sep-74	8.06	0.006490612	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
110	Oct-74	7.46	0.006013719	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
111	Nov-74	7.47	0.006021520	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
112	Dec-74	7.15	0.005771553	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911
113	Jan-75	6.26	0.005072717	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
114	Feb-75	5.50	0.004471699	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355
115	Mar-75	5.49	0.004463784	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355
116	Apr-75	5.61	0.004558934	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355
117	May-75	5.23	0.004257223	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
118	Jun-75	5.34	0.004344663	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355
119	Jul-75	6.13	0.004970192	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
120	Aug-75	6.44	0.005214487	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
121	Sep-75	6.42	0.005198745	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
122	Oct-75	5.96	0.004835945	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744
123	Nov-75	5.48	0.004455829	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355
124	Dec-75	5.44	0.004424081	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355
125	Jan-76	4.87	0.003970470	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
126	Feb-76	4.88	0.003978448	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
127	Mar-76	5.00	0.004074124	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
128	Apr-76	4.86	0.003962492	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
129	May-76	5.20	0.004233362	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
130	Jun-76	5.41	0.004400263	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355
131	Jul-76	5.23	0.004257223	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
132	Aug-76	5.14	0.004185619	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
133	Sep-76	5.08	0.004137852	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
134	Oct-76	4.92	0.004010351	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966

Appendix 14
Relative Frequency (Probability Equal Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
135	Nov-76	4.75	0.003874685	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
136	Dec-76	4.35	0.003554674	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577			
137	Jan-77	4.62	0.003770804	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
138	Feb-77	4.67	0.003810772	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
139	Mar-77	4.60	0.003754812	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
140	Apr-77	4.54	0.003706819	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
141	May-77	4.96	0.004042243	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
142	Jun-77	5.02	0.004090060	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
143	Jul-77	5.19	0.004225406	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
144	Aug-77	5.49	0.004463764	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
145	Sep-77	5.81	0.004717329	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
146	Oct-77	6.16	0.004993862	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
147	Nov-77	6.10	0.004946515	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
148	Dec-77	6.07	0.004922833	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
149	Jan-78	6.44	0.005214487	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
150	Feb-78	6.45	0.005222356	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
151	Mar-78	6.29	0.005096361	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
152	Apr-78	6.29	0.005096361	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
153	May-78	6.41	0.005190874	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
154	Jun-78	6.73	0.005442431	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
155	Jul-78	7.01	0.005661977	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133			
156	Aug-78	7.06	0.005716782	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
157	Sep-78	7.85	0.006317470	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
158	Oct-78	7.99	0.006426264	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
159	Nov-78	8.64	0.006929690	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
160	Dec-78	9.08	0.007268905	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
161	Jan-79	9.35	0.007476440	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
162	Feb-79	9.32	0.007453404	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
163	Mar-79	9.48	0.007576197	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
164	Apr-79	9.46	0.007560857	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
165	May-79	9.61	0.007675845	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
166	Jun-79	9.06	0.007253514	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
167	Jul-79	9.24	0.007391946	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078			
168	Aug-79	9.52	0.007606869	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245			
169	Sep-79	10.26	0.008172466	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
170	Oct-79	11.70	0.009263184	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
171	Nov-79	11.79	0.009330925	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
172	Dec-79	12.04	0.009518832	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
173	Jan-80	12.00	0.009488793	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
174	Feb-80	12.86	0.010132483	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
175	Mar-80	15.20	0.011861426	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303			
176	Apr-80	13.20	0.010385726	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358			
177	May-80	8.58	0.006883336	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
178	Jun-80	7.07	0.005708954	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
179	Jul-80	8.06	0.006480612	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			

Appendix 14
Relative Frequency (Probability Equal Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
180	Aug-80	9.13	0.007307373	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078
181	Sep-80	10.27	0.008160085	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413
182	Oct-80	11.62	0.009202927	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413
183	Nov-80	13.73	0.010779100	0.556136	0.556136	0.556136	0.556136	0.556136	0.556136	0.556136	0.556136	0.556136	0.556136	0.556136
184	Dec-80	15.49	0.012073449	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
185	Jan-81	15.02	0.011728578	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303
186	Feb-81	14.79	0.011560831	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303
187	Mar-81	13.66	0.010504658	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358
188	Apr-81	13.69	0.010749470	0.556136	0.556136	0.556136	0.556136	0.556136	0.556136	0.556136	0.556136	0.556136	0.556136	0.556136
189	May-81	16.30	0.012663079	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859
190	Jun-81	14.73	0.011516759	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303
191	Jul-81	14.95	0.011678253	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303	0.548303
192	Aug-81	15.51	0.012088054	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
193	Sep-81	14.70	0.011494715	0.553525	0.553525	0.553525	0.553525	0.553525	0.553525	0.553525	0.553525	0.553525	0.553525	0.553525
194	Oct-81	13.54	0.010638273	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358
195	Nov-81	10.86	0.008278509	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413
196	Dec-81	10.85	0.008620927	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413
197	Jan-82	12.28	0.009898663	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802
198	Feb-82	13.48	0.010593756	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358	0.561358
199	Mar-82	12.68	0.009998130	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580
200	Apr-82	12.70	0.010013068	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580
201	May-82	12.09	0.009556368	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802
202	Jun-82	12.47	0.009841136	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191
203	Jul-82	11.35	0.008992669	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413
204	Aug-82	8.68	0.006960580	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689
205	Sep-82	7.92	0.006371883	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
206	Oct-82	7.71	0.006208547	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
207	Nov-82	8.07	0.006488374	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
208	Dec-82	7.94	0.006387424	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
209	Jan-83	7.86	0.006325246	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
210	Feb-83	8.11	0.006519413	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
211	Mar-83	8.35	0.006705427	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689
212	Apr-83	8.21	0.006596965	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
213	May-83	8.19	0.006581459	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300
214	Jun-83	8.79	0.007045473	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689
215	Jul-83	9.08	0.007268905	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689
216	Aug-83	9.34	0.007468762	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078	0.590078
217	Sep-83	9.00	0.007207323	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689
218	Oct-83	8.64	0.006929690	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689
219	Nov-83	8.76	0.007022328	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689
220	Dec-83	9.00	0.007207323	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689
221	Jan-84	8.90	0.007130287	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689
222	Feb-84	9.09	0.007276600	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689
223	Mar-84	9.52	0.007606869	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245	0.582245
224	Apr-84	9.69	0.007737113	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634

Appendix 14
Relative Frequency (Probability Equal Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
225	May-84	9.83	0.007844234	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634			
226	Jun-84	9.87	0.007874816	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634			
227	Jul-84	10.12	0.008065729	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023	0.577023			
228	Aug-84	10.47	0.008332339	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
229	Sep-84	10.37	0.008256244	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
230	Oct-84	9.74	0.007775385	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634	0.579634			
231	Nov-84	8.61	0.006906516	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
232	Dec-84	8.06	0.006480612	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
233	Jan-85	7.76	0.006247463	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
234	Feb-85	8.27	0.006643464	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
235	Mar-85	8.52	0.006816958	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
236	Apr-85	7.95	0.006335193	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
237	May-85	7.48	0.006029320	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
238	Jun-85	6.95	0.005614976	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133	0.603133			
239	Jul-85	7.08	0.005716782	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
240	Aug-85	7.14	0.005763730	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
241	Sep-85	7.10	0.005732434	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
242	Oct-85	7.16	0.005779375	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
243	Nov-85	7.24	0.005841925	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
244	Dec-85	7.10	0.005732434	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
245	Jan-86	7.07	0.005708954	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
246	Feb-86	7.06	0.005701126	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
247	Mar-86	6.56	0.005308877	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
248	Apr-86	6.06	0.004914938	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
249	May-86	6.15	0.004985872	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
250	Jun-86	6.21	0.005033298	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
251	Jul-86	5.83	0.004733153	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
252	Aug-86	5.53	0.004495498	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
253	Sep-86	5.21	0.004241316	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
254	Oct-86	5.18	0.004217450	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
255	Nov-86	5.35	0.004352608	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
256	Dec-86	5.53	0.004495498	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
257	Jan-87	5.43	0.004416143	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
258	Feb-87	5.59	0.004543079	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
259	Mar-87	5.59	0.004543079	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
260	Apr-87	5.84	0.004582710	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
261	May-87	5.86	0.004598558	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
262	Jun-87	5.87	0.004606481	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
263	Jul-87	5.69	0.004622325	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
264	Aug-87	6.04	0.004899145	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
265	Sep-87	6.40	0.005183001	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
266	Oct-87	6.13	0.004970192	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
267	Nov-87	5.69	0.004622325	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
268	Dec-87	5.77	0.004685672	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
269	Jan-88	5.81	0.004717329	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			

Appendix 14
Relative Frequency (Probability Equal Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
270	Feb-88	5.66	0.004598558	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
271	Mar-88	5.70	0.004630246	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
272	Apr-88	5.91	0.004796424	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
273	May-88	6.26	0.005072717	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
274	Jun-88	6.46	0.005230225	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
275	Jul-88	6.73	0.005442431	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
276	Aug-88	7.06	0.005701126	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
277	Sep-88	7.24	0.005841925	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
278	Oct-88	7.35	0.005927862	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
279	Nov-88	7.76	0.006247463	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
280	Dec-88	8.07	0.006488374	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
281	Jan-89	8.27	0.006843464	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
282	Feb-89	8.53	0.006844689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
283	Mar-89	8.82	0.007068612	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
284	Apr-89	8.65	0.006937413	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
285	May-89	8.43	0.006767347	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689	0.592689			
286	Jun-89	8.15	0.006550441	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
287	Jul-89	7.88	0.006340794	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
288	Aug-89	7.90	0.006356340	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
289	Sep-89	7.75	0.006239681	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
290	Oct-89	7.64	0.006154037	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
291	Nov-89	7.69	0.006192976	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
292	Dec-89	7.83	0.006146247	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
293	Jan-90	7.64	0.006154037	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
294	Feb-90	7.74	0.006231899	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
295	Mar-90	7.90	0.006356340	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
296	Apr-90	7.77	0.006255245	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
297	May-90	7.74	0.006231899	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
298	Jun-90	7.73	0.006224116	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
299	Jul-90	7.62	0.006138457	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
300	Aug-90	7.45	0.006005917	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
301	Sep-90	7.36	0.005935671	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300	0.595300			
302	Oct-90	7.17	0.005787196	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
303	Nov-90	7.06	0.005701126	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911	0.597911			
304	Dec-90	6.74	0.005450281	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
305	Jan-91	6.22	0.005041183	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
306	Feb-91	5.94	0.004820139	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
307	Mar-91	5.91	0.004796424	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744	0.605744			
308	Apr-91	5.65	0.004590635	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
309	May-91	5.46	0.004439957	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
310	Jun-91	5.57	0.004527222	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
311	Jul-91	5.58	0.004535151	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
312	Aug-91	5.33	0.004336718	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
313	Sep-91	5.22	0.004249270	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
314	Oct-91	4.99	0.004086155	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			

Appendix 14
Relative Frequency (Probability Equal Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
315	Nov-91	4.56	0.003722819	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
316	Dec-91	4.07	0.003329996	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577			
317	Jan-92	3.80	0.003112817	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
318	Feb-92	3.84	0.003145024	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
319	Mar-92	4.04	0.003305890	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577			
320	Apr-92	3.75	0.003072542	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
321	May-92	3.63	0.002975909	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
322	Jun-92	3.66	0.003000002	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
323	Jul-92	3.21	0.002636433	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
324	Aug-92	3.13	0.002571646	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
325	Sep-92	2.91	0.002393245	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
326	Oct-92	2.86	0.002352651	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
327	Nov-92	3.13	0.002571646	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
328	Dec-92	3.22	0.002644528	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
329	Jan-93	3.00	0.002466270	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
330	Feb-93	2.93	0.002409478	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
331	Mar-93	2.95	0.002425708	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
332	Apr-93	2.87	0.002360771	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
333	May-93	2.96	0.002433822	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
334	Jun-93	3.07	0.002523026	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
335	Jul-93	3.04	0.002498706	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
336	Aug-93	3.02	0.002482489	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
337	Sep-93	2.95	0.002425708	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
338	Oct-93	3.02	0.002482489	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
339	Nov-93	3.10	0.002547339	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
340	Dec-93	3.06	0.002514920	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
341	Jan-94	2.88	0.002450047	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
342	Feb-94	3.25	0.002688809	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
343	Mar-94	3.50	0.002870889	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410	0.621410			
344	Apr-94	3.66	0.003016127	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799			
345	May-94	4.14	0.003386217	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577			
346	Jun-94	4.14	0.003386217	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577			
347	Jul-94	4.33	0.003538643	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577			
348	Aug-94	4.48	0.003658900	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577			
349	Sep-94	4.62	0.003778004	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
350	Oct-94	4.95	0.004034271	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966			
351	Nov-94	5.29	0.004304928	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
352	Dec-94	5.60	0.004551007	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
353	Jan-95	5.71	0.004638166	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
354	Feb-95	5.77	0.004685672	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
355	Mar-95	5.73	0.004654004	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
356	Apr-95	5.65	0.004590635	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
357	May-95	5.67	0.004606481	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
358	Jun-95	5.47	0.004447893	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			
359	Jul-95	5.42	0.004408203	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355			

Appendix 14
Relative Frequency (Probability Equal Weighted Returns > T-bills)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
360	Aug-95	5.40	0.004392322	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355
361	Sep-95	5.28	0.004296979	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
362	Oct-95	5.28	0.004296979	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
363	Nov-95	5.36	0.004360552	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355	0.608355
364	Dec-95	5.14	0.004185619	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
365	Jan-96	5.00	0.004074124	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
366	Feb-96	4.83	0.003938553	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
367	Mar-96	4.96	0.004042243	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
368	Apr-96	4.95	0.004034271	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
368	May-96	5.02	0.004090060	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
370	Jun-96	5.09	0.004145815	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
371	Jul-96	5.15	0.004193578	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
372	Aug-96	5.05	0.004113959	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
373	Sep-96	5.09	0.004145815	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
374	Oct-96	4.99	0.004066155	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
375	Nov-96	5.03	0.004098027	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
376	Dec-96	4.91	0.004002376	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
377	Jan-97	5.03	0.004098027	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
378	Feb-97	5.01	0.004082092	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
378	Mar-97	5.14	0.004185619	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
380	Apr-97	5.16	0.004201536	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
381	May-97	5.05	0.004113959	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
382	Jun-97	4.93	0.004018325	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
383	Jul-97	5.05	0.004113959	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
384	Aug-97	5.14	0.004185619	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
385	Sep-97	4.95	0.004034271	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
386	Oct-97	4.97	0.004050214	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
387	Nov-97	5.14	0.004185619	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
388	Dec-97	5.16	0.004201536	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
388	Jan-98	5.04	0.004105694	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
389	Feb-98	5.09	0.004145815	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
389	Mar-98	5.03	0.004098027	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
389	Apr-98	4.95	0.004034271	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
389	May-98	5.00	0.004074124	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
389	Jun-98	4.98	0.004058185	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
389	Jul-98	4.96	0.004042243	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
389	Aug-98	4.90	0.003894401	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
389	Sep-98	4.61	0.003762809	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966	0.610966
389	Oct-98	3.96	0.003241578	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799	0.618799
389	Nov-98	4.41	0.003602747	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577
400	Dec-98	4.39	0.003586725	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577	0.613577
401			0.002352651											
402			0.012663079											

Appendix 15
A Test for Equal Weighted Returns

Year	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	Y
70																					
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Appendix 16
Constant Probability (S P 500)

	A	B	C	D	E	F
1	Date	3 Month		S & P 500		
2	(Month-Year)	T-Bill Rate	d	Returns		Constant Prob
3						
4	Jan-34	0.72	0.000598029	0.105941	1	0.591145833
5	Feb-34	0.62	0.000515204	-0.036705	0	
6	Mar-34	0.24	0.000199780	-0.000929	0	
7	Apr-34	0.15	0.000124914	-0.026977	0	
8	May-34	0.16	0.000133236	-0.081262	0	
9	Jun-34	0.15	0.000124914	0.020812	1	
10	Jul-34	0.15	0.000124914	-0.115189	0	
11	Aug-34	0.19	0.000158196	0.054147	1	
12	Sep-34	0.21	0.000174832	-0.005464	0	
13	Oct-34	0.27	0.000224722	-0.031868	0	
14	Nov-34	0.25	0.000208095	0.082860	1	
15	Dec-34	0.23	0.000191465	-0.004193	0	
16	Jan-35	0.20	0.000166514	-0.042105	0	
17	Feb-35	0.19	0.000158196	-0.039560	0	
18	Mar-35	0.15	0.000124914	-0.030892	0	
19	Apr-35	0.15	0.000124914	0.095632	1	
20	May-35	0.15	0.000124914	0.032328	1	
21	Jun-35	0.15	0.000124914	0.067850	1	
22	Jul-35	0.15	0.000124914	0.083089	1	
23	Aug-35	0.16	0.000133236	0.021661	1	
24	Sep-35	0.20	0.000166514	0.023852	1	
25	Oct-35	0.20	0.000166514	0.075065	1	
26	Nov-35	0.16	0.000133236	0.039326	1	
27	Dec-35	0.15	0.000124914	0.037066	1	
28	Jan-36	0.20	0.000166514	0.065525	1	
29	Feb-36	0.20	0.000166514	0.016771	1	
30	Mar-36	0.20	0.000166514	0.025430	1	
31	Apr-36	0.20	0.000166514	-0.077078	0	
32	May-36	0.20	0.000166514	0.045752	1	
33	Jun-36	0.20	0.000166514	0.030556	1	
34	Jul-36	0.15	0.000124914	0.068059	1	
35	Aug-36	0.20	0.000166514	0.008833	1	
36	Sep-36	0.16	0.000133236	0.001251	1	
37	Oct-36	0.13	0.000108269	0.074953	1	
38	Nov-36	0.11	0.000091620	0.004067	1	
39	Dec-36	0.12	0.000099945	-0.005787	0	
40	Jan-37	0.17	0.000141556	0.037835	1	
41	Feb-37	0.15	0.000124914	0.014582	1	
42	Mar-37	0.38	0.000316116	-0.009397	0	
43	Apr-37	0.56	0.000465473	-0.083147	0	
44	May-37	0.41	0.000341026	-0.010347	0	
45	Jun-37	0.36	0.000299506	-0.052891	0	
46	Jul-37	0.28	0.000233034	0.102597	1	
47	Aug-37	0.29	0.000241346	-0.055359	0	
48	Sep-37	0.31	0.000257967	-0.142145	0	
49	Oct-37	0.20	0.000166514	-0.101744	0	
50	Nov-37	0.09	0.000074969	-0.101133	0	
51	Dec-37	0.11	0.000091620	-0.050405	0	
52	Jan-38	0.10	0.000083295	0.013270	1	
53	Feb-38	0.08	0.000066642	0.060804	1	
54	Mar-38	0.08	0.000066642	-0.250441	0	
55	Apr-38	0.09	0.000074969	0.141177	1	
56	May-38	0.05	0.000041657	-0.044330	0	

Appendix 16
Constant Probability (S P 500)

	A	B	C	D	E	F
57	Jun-38	0.05	0.000041657	0.247033	1	
58	Jul-38	0.07	0.000058315	0.072664	1	
59	Aug-38	0.06	0.000049986	-0.027419	0	
60	Sep-38	0.08	0.000066642	0.014925	1	
61	Oct-38	0.05	0.000041657	0.075980	1	
62	Nov-38	0.04	0.000033327	-0.033409	0	
63	Dec-38	0.03	0.000024997	0.037706	1	
64	Jan-39	0.03	0.000024997	-0.068887	0	
65	Feb-39	0.03	0.000024997	0.032520	1	
66	Mar-39	0.03	0.000024997	-0.135433	0	
67	Apr-39	0.03	0.000024997	-0.005464	0	
68	May-39	0.03	0.000024997	0.062271	1	
69	Jun-39	0.03	0.000024997	-0.063793	0	
70	Jul-39	0.04	0.000033327	0.108656	1	
71	Aug-39	0.05	0.000041657	-0.071429	0	
72	Sep-39	0.14	0.000116592	0.164580	1	
73	Oct-39	0.05	0.000041657	-0.014593	0	
74	Nov-39	0.05	0.000041657	-0.049104	0	
75	Dec-39	0.04	0.000033327	0.023770	1	
76	Jan-40	0.01	0.000008333	-0.035228	0	
77	Feb-40	0.02	0.000016665	0.006639	1	
78	Mar-40	0.02	0.000016665	0.009893	1	
79	Apr-40	0.02	0.000016665	-0.004898	0	
80	May-40	0.06	0.000049986	-0.239541	0	
81	Jun-40	0.10	0.000083295	0.076591	1	
82	Jul-40	0.05	0.000041657	0.031062	1	
83	Aug-40	0.04	0.000033327	0.026239	1	
84	Sep-40	0.05	0.000041657	0.009470	1	
85	Oct-40	0.02	0.000016665	0.039400	1	
86	Nov-40	0.02	0.000016665	-0.042419	0	
87	Dec-40	0.02	0.000016665	-0.002828	0	
88	Jan-41	0.02	0.000016665	-0.048204	0	
89	Feb-41	0.04	0.000033327	-0.014896	0	
90	Mar-41	0.11	0.000091620	0.004032	1	
91	Apr-41	0.10	0.000083295	-0.065261	0	
92	May-41	0.11	0.000091620	0.004296	1	
93	Jun-41	0.12	0.000099945	0.053476	1	
94	Jul-41	0.12	0.000099945	0.054822	1	
95	Aug-41	0.13	0.000108269	-0.008662	0	
96	Sep-41	0.10	0.000083295	-0.009709	0	
97	Oct-41	0.09	0.000074969	-0.068627	0	
98	Nov-41	0.28	0.000233034	-0.042105	0	
99	Dec-41	0.33	0.000274585	-0.045055	0	
100	Jan-42	0.27	0.000224722	0.013809	1	
101	Feb-42	0.25	0.000208095	-0.024972	0	
102	Mar-42	0.25	0.000208095	-0.067520	0	
103	Apr-42	0.32	0.000266276	-0.043695	0	
104	May-42	0.37	0.000307812	0.063969	1	
105	Jun-42	0.37	0.000307812	0.018405	1	
106	Jul-42	0.38	0.000316116	0.031325	1	
107	Aug-42	0.38	0.000316116	0.007009	1	
108	Sep-42	0.38	0.000316116	0.026682	1	
109	Oct-42	0.38	0.000316116	0.064407	1	
110	Nov-42	0.38	0.000316116	-0.013800	0	
111	Dec-42	0.38	0.000316116	0.051668	1	
112	Jan-43	0.38	0.000316116	0.071648	1	

Appendix 16
Constant Probability (S P 500)

	A	B	C	D	E	F
113	Feb-43	0.38	0.000316116	0.050621	1	
114	Mar-43	0.38	0.000316116	0.052727	1	
115	Apr-43	0.38	0.000316116	0.000864	1	
116	May-43	0.38	0.000316116	0.044866	1	
117	Jun-43	0.38	0.000316116	0.019818	1	
118	Jul-43	0.38	0.000316116	-0.054251	0	
119	Aug-43	0.38	0.000316116	0.010274	1	
120	Sep-43	0.38	0.000316116	0.023729	1	
121	Oct-43	0.38	0.000316116	-0.013245	0	
122	Nov-43	0.38	0.000316116	-0.075503	0	
123	Dec-43	0.38	0.000316116	0.058984	1	
124	Jan-44	0.38	0.000316116	0.015424	1	
125	Feb-44	0.38	0.000316116	-0.002532	0	
126	Mar-44	0.38	0.000316116	0.016920	1	
127	Apr-44	0.38	0.000316116	-0.012479	0	
128	May-44	0.38	0.000316116	0.040438	1	
129	Jun-44	0.38	0.000316116	0.051012	1	
130	Jul-44	0.38	0.000316116	-0.020801	0	
131	Aug-44	0.38	0.000316116	0.008655	1	
132	Sep-44	0.38	0.000316116	-0.003120	0	
133	Oct-44	0.38	0.000316116	0.000000	0	
134	Nov-44	0.38	0.000316116	0.003912	1	
135	Dec-44	0.38	0.000316116	0.035074	1	
136	Jan-45	0.38	0.000316116	0.014307	1	
137	Feb-45	0.38	0.000316116	0.061618	1	
138	Mar-45	0.38	0.000316116	-0.046154	0	
139	Apr-45	0.38	0.000316116	0.087977	1	
140	May-45	0.38	0.000316116	0.011456	1	
141	Jun-45	0.38	0.000316116	-0.003331	0	
142	Jul-45	0.38	0.000316116	-0.020053	0	
143	Aug-45	0.38	0.000316116	0.057981	1	
144	Sep-45	0.38	0.000316116	0.041908	1	
145	Oct-45	0.38	0.000316116	0.030322	1	
146	Nov-45	0.38	0.000316116	0.032432	1	
147	Dec-45	0.38	0.000316116	0.009889	1	
148	Jan-46	0.38	0.000316116	0.069700	1	
149	Feb-46	0.38	0.000316116	-0.069467	0	
150	Mar-46	0.38	0.000316116	0.046296	1	
151	Apr-46	0.38	0.000316116	0.037611	1	
152	May-46	0.38	0.000316116	0.022388	1	
153	Jun-46	0.38	0.000316116	-0.039103	0	
154	Jul-46	0.38	0.000316116	-0.025502	0	
155	Aug-46	0.38	0.000316116	-0.072940	0	
156	Sep-46	0.38	0.000316116	-0.101502	0	
157	Oct-46	0.38	0.000316116	-0.008021	0	
158	Nov-46	0.38	0.000316116	-0.011456	0	
159	Dec-46	0.38	0.000316116	0.042945	1	
160	Jan-47	0.38	0.000316116	0.023529	1	
161	Feb-47	0.38	0.000316116	-0.014687	0	
162	Mar-47	0.38	0.000316116	-0.016850	0	
163	Apr-47	0.38	0.000316116	-0.038893	0	
164	May-47	0.38	0.000316116	-0.008916	0	
165	Jun-47	0.38	0.000316116	0.052595	1	
166	Jul-47	0.66	0.000548343	0.036160	1	
167	Aug-47	0.75	0.000622862	-0.027919	0	
168	Sep-47	0.80	0.000664235	-0.013708	0	

Appendix 16
Constant Probability (S P 500)

	A	B	C	D	E	F
169	Oct-47	0.85	0.000705589	0.021178	1	
170	Nov-47	0.92	0.000763453	-0.028516	0	
171	Dec-47	0.95	0.000788240	0.020680	1	
172	Jan-48	0.97	0.000804762	-0.039869	0	
173	Feb-48	1.00	0.000829538	-0.046971	0	
174	Mar-48	1.00	0.000829538	0.077143	1	
175	Apr-48	1.00	0.000829538	0.026525	1	
176	May-48	1.00	0.000829538	0.078165	1	
177	Jun-48	1.00	0.000829538	0.002996	1	
178	Jul-48	1.00	0.000829538	-0.053166	0	
179	Aug-48	1.06	0.000879071	0.007571	1	
180	Sep-48	1.09	0.000903827	-0.030056	0	
181	Oct-48	1.12	0.000928576	0.067786	1	
182	Nov-48	1.14	0.000945072	-0.108222	0	
183	Dec-48	1.16	0.000961565	0.030508	1	
184	Jan-49	1.17	0.000969810	0.001316	1	
185	Feb-49	1.17	0.000969810	-0.039422	0	
186	Mar-49	1.17	0.000969810	0.030096	1	
187	Apr-49	1.17	0.000969810	-0.021248	0	
188	May-49	1.17	0.000969810	-0.037313	0	
189	Jun-49	1.17	0.000969810	-0.002114	0	
190	Jul-49	1.02	0.000846052	0.062147	1	
191	Aug-49	1.04	0.000862563	0.011968	1	
192	Sep-49	1.07	0.000887323	0.023653	1	
193	Oct-49	1.05	0.000870817	0.029525	1	
194	Nov-49	1.08	0.000895575	0.001247	1	
195	Dec-49	1.10	0.000912077	0.043587	1	
196	Jan-50	1.07	0.000887323	0.017303	1	
197	Feb-50	1.12	0.000928576	0.009971	1	
198	Mar-50	1.12	0.000928576	0.004065	1	
199	Apr-50	1.15	0.000953319	0.045113	1	
200	May-50	1.16	0.000961565	0.039292	1	
201	Jun-50	1.15	0.000953319	-0.058040	0	
202	Jul-50	1.16	0.000961565	0.008479	1	
203	Aug-50	1.20	0.000994542	0.032511	1	
204	Sep-50	1.30	0.001076932	0.055917	1	
205	Oct-50	1.31	0.001085166	0.004113	1	
206	Nov-50	1.36	0.001126330	-0.001024	0	
207	Dec-50	1.34	0.001109867	0.046130	1	
208	Jan-51	1.34	0.001109867	0.061244	1	
209	Feb-51	1.36	0.001126330	0.006464	1	
210	Mar-51	1.40	0.001159247	-0.018349	0	
211	Apr-51	1.47	0.001216823	0.048131	1	
212	May-51	1.55	0.001282580	-0.040571	0	
213	Jun-51	1.45	0.001200377	-0.026022	0	
214	Jul-51	1.56	0.001290797	0.068702	1	
215	Aug-51	1.62	0.001340079	0.039286	1	
216	Sep-51	1.63	0.001348290	-0.000859	0	
217	Oct-51	1.54	0.001274363	-0.013758	0	
218	Nov-51	1.56	0.001290797	-0.002616	0	
219	Dec-51	1.73	0.001430360	0.038899	1	
220	Jan-52	1.57	0.001299012	0.015566	1	
221	Feb-52	1.54	0.001274363	-0.036454	0	
222	Mar-52	1.59	0.001315441	0.047721	1	
223	Apr-52	1.57	0.001299012	-0.043086	0	
224	May-52	1.67	0.001381127	0.023156	1	

Appendix 16
Constant Probability (S P 500)

	A	B	C	D	E	F
225	Jun-52	1.70	0.001405747	0.046102	1	
226	Jul-52	1.81	0.001495963	0.017628	1	
227	Aug-52	1.83	0.001512357	-0.014567	0	
228	Sep-52	1.71	0.001413952	-0.019577	0	
229	Oct-52	1.74	0.001438563	-0.000815	0	
230	Nov-52	1.85	0.001528747	0.046493	1	
231	Dec-52	2.09	0.001725202	0.035464	1	
232	Jan-53	1.96	0.001618842	-0.007151	0	
233	Feb-53	1.97	0.001627028	-0.018196	0	
234	Mar-53	2.01	0.001659764	-0.023552	0	
235	Apr-53	2.19	0.001806934	-0.026493	0	
236	May-53	2.16	0.001782422	-0.003249	0	
237	Jun-53	2.11	0.001741555	-0.016300	0	
238	Jul-53	2.04	0.001684309	0.025269	1	
239	Aug-53	2.04	0.001684309	-0.057778	0	
240	Sep-53	1.79	0.001479567	0.001286	0	
241	Oct-53	1.38	0.001142790	0.050964	1	
242	Nov-53	1.44	0.001192152	0.008965	1	
243	Dec-53	1.60	0.001323654	0.002019	1	
244	Jan-54	1.18	0.000978055	0.051189	1	
245	Feb-54	0.97	0.000804762	0.002684	1	
246	Mar-54	1.03	0.000854308	0.030210	1	
247	Apr-54	0.97	0.000804762	0.048998	1	
248	May-54	0.76	0.000631138	0.032909	1	
249	Jun-54	0.64	0.000531775	0.000685	1	
250	Jul-54	0.72	0.000598029	0.057172	1	
251	Aug-54	0.92	0.000763453	-0.034003	0	
252	Sep-54	1.01	0.000837795	0.083138	1	
253	Oct-54	0.98	0.000813021	-0.019499	0	
254	Nov-54	0.93	0.000771716	0.080808	1	
255	Dec-54	1.15	0.000953319	0.050818	1	
256	Jan-55	1.22	0.001011026	0.018066	1	
257	Feb-55	1.17	0.000969810	0.003549	1	
258	Mar-55	1.28	0.001060460	-0.004897	0	
259	Apr-55	1.59	0.001315441	0.037726	1	
260	May-55	1.45	0.001200377	-0.001317	0	
261	Jun-55	1.41	0.001167474	0.082300	1	
262	Jul-55	1.60	0.001323654	0.060687	1	
263	Aug-55	1.90	0.001569710	-0.007812	0	
264	Sep-55	2.07	0.001708847	0.011348	1	
265	Oct-55	2.23	0.001839606	-0.030456	0	
266	Nov-55	2.24	0.001847772	0.074870	1	
267	Dec-55	2.54	0.002092418	-0.000659	0	
268	Jan-56	2.41	0.001986485	-0.036500	0	
269	Feb-56	2.32	0.001913075	0.034687	1	
270	Mar-56	2.25	0.001855938	0.069255	1	
271	Apr-56	2.60	0.002141268	-0.002063	0	
272	May-56	2.61	0.002149407	-0.065730	0	
273	Jun-56	2.49	0.002051689	0.039159	1	
274	Jul-56	2.31	0.001904915	0.051522	1	
275	Aug-56	2.60	0.002141268	-0.038064	0	
276	Sep-56	2.84	0.002336408	-0.045464	0	
277	Oct-56	2.90	0.002385128	0.005072	1	
278	Nov-56	2.99	0.002458159	-0.010970	0	
279	Dec-56	3.21	0.002636433	0.035271	1	
280	Jan-57	3.11	0.002555442	-0.041783	0	

Appendix 16
Constant Probability (S P 500)

	A	B	C	D	E	F
281	Feb-57	3.10	0.002547339	-0.032648	0	
282	Mar-57	3.08	0.002531131	0.019649	1	
283	Apr-57	3.07	0.002523026	0.036953	1	
284	May-57	3.06	0.002514920	0.036948	1	
285	Jun-57	3.29	0.002701173	-0.001265	0	
286	Jul-57	3.16	0.002595947	0.011400	1	
287	Aug-57	3.37	0.002765868	-0.056147	0	
288	Sep-57	3.53	0.002895119	-0.061919	0	
289	Oct-57	3.58	0.002935473	-0.032060	0	
290	Nov-57	3.31	0.002717351	0.016074	1	
291	Dec-57	3.04	0.002498706	-0.041467	0	
292	Jan-58	2.44	0.002010942	0.042761	1	
293	Feb-58	1.53	0.001266145	-0.020623	0	
294	Mar-58	1.30	0.001076932	0.030852	1	
295	Apr-58	1.13	0.000936825	0.031829	1	
296	May-58	0.91	0.000755189	0.014963	1	
297	Jun-58	0.83	0.000689049	0.026083	1	
298	Jul-58	0.91	0.000755189	0.043103	1	
299	Aug-58	1.69	0.001397541	0.011867	1	
300	Sep-58	2.44	0.002010942	0.048377	1	
301	Oct-58	2.63	0.002165684	0.025370	1	
302	Nov-58	2.67	0.002198227	0.022404	1	
303	Dec-58	2.77	0.002279536	0.052020	1	
304	Jan-59	2.82	0.002320162	0.003804	1	
305	Feb-59	2.70	0.002222627	-0.000180	0	
306	Mar-59	2.80	0.002303914	0.000541	0	
307	Apr-59	2.95	0.002425708	0.038781	1	
308	May-59	2.84	0.002336408	0.018927	1	
309	Jun-59	3.21	0.002636433	-0.003579	0	
310	Jul-59	3.20	0.002628337	0.034890	1	
311	Aug-59	3.38	0.002773951	-0.015039	0	
312	Sep-59	4.04	0.003305890	-0.045638	0	
313	Oct-59	4.05	0.003313926	0.011252	1	
314	Nov-59	4.15	0.003394246	0.013213	1	
315	Dec-59	4.49	0.003666805	0.027625	1	
316	Jan-60	4.35	0.003554674	-0.071464	0	
317	Feb-60	3.96	0.003241578	0.009171	1	
318	Mar-60	3.31	0.002717351	-0.013899	0	
319	Apr-60	3.23	0.002652622	-0.017528	0	
320	May-60	3.29	0.002701173	0.026853	1	
321	Jun-60	2.46	0.002027243	0.019524	1	
322	Jul-60	2.30	0.001896754	-0.024772	0	
323	Aug-60	2.30	0.001896754	0.026121	1	
324	Sep-60	2.48	0.002043541	-0.060393	0	
325	Oct-60	2.30	0.001896754	-0.002429	0	
326	Nov-60	2.37	0.001953866	0.040270	1	
327	Dec-60	2.25	0.001855938	0.046273	1	
328	Jan-61	2.24	0.001847772	0.063156	1	
329	Feb-61	2.42	0.001994638	0.026870	1	
330	Mar-61	2.39	0.001970177	0.025536	1	
331	Apr-61	2.29	0.001888592	0.003843	1	
332	May-61	2.29	0.001888592	0.019139	1	
333	Jun-61	2.33	0.001921235	-0.028846	0	
334	Jul-61	2.24	0.001847772	0.032797	1	
335	Aug-61	2.39	0.001970177	0.019823	1	
336	Sep-61	2.28	0.001880429	-0.019686	0	

Appendix 16
Constant Probability (S P 500)

	A	B	C	D	E	F
337	Oct-61	2.30	0.001896754	0.028323	1	
338	Nov-61	2.48	0.002043541	0.039347	1	
339	Dec-61	2.60	0.002141268	0.003225	1	
340	Jan-62	2.72	0.002238890	-0.037876	0	
341	Feb-62	2.73	0.002247021	0.016270	1	
342	Mar-62	2.72	0.002238890	-0.005860	0	
343	Apr-62	2.73	0.002247021	-0.061970	0	
344	May-62	2.69	0.002214495	-0.085990	0	
345	Jun-62	2.73	0.002247021	-0.081838	0	
346	Jul-62	2.92	0.002401362	0.063562	1	
347	Aug-62	2.82	0.002320162	0.015284	1	
348	Sep-62	2.78	0.002287662	-0.048207	0	
349	Oct-62	2.74	0.002255151	0.004443	1	
350	Nov-62	2.83	0.002328286	0.101557	1	
351	Dec-62	2.87	0.002360771	0.013492	1	
352	Jan-63	2.91	0.002393245	0.049128	1	
353	Feb-63	2.92	0.002401362	-0.028852	0	
354	Mar-63	2.89	0.002377010	0.035464	1	
355	Apr-63	2.90	0.002385128	0.048520	1	
356	May-63	2.93	0.002409478	0.014327	1	
357	Jun-63	2.99	0.002458159	-0.020198	0	
358	Jul-63	3.18	0.002612143	-0.003460	0	
359	Aug-63	3.32	0.002725439	0.048749	1	
360	Sep-63	3.38	0.002773951	-0.011034	0	
361	Oct-63	3.45	0.002830517	0.032218	1	
362	Nov-63	3.52	0.002887047	-0.010539	0	
363	Dec-63	3.52	0.002887047	0.024444	1	
364	Jan-64	3.52	0.002887047	0.026926	1	
365	Feb-64	3.53	0.002895119	0.009865	1	
366	Mar-64	3.54	0.002903192	0.015167	1	
367	Apr-64	3.47	0.002846672	0.006077	1	
368	May-64	3.48	0.002854748	0.011452	1	
369	Jun-64	3.48	0.002854748	0.016424	1	
370	Jul-64	3.46	0.002838594	0.018240	1	
371	Aug-64	3.50	0.002870899	-0.016230	0	
372	Sep-64	3.53	0.002895119	0.028718	1	
373	Oct-64	3.57	0.002927404	0.008078	1	
374	Nov-64	3.64	0.002983874	-0.005185	0	
375	Dec-64	3.84	0.003145024	0.003909	1	
376	Jan-65	3.81	0.003120870	0.033156	1	
377	Feb-65	3.93	0.003217449	-0.001485	0	
378	Mar-65	3.93	0.003217449	-0.014526	0	
379	Apr-65	3.93	0.003217449	0.034239	1	
380	May-65	3.89	0.003185267	-0.007743	0	
381	Jun-65	3.80	0.003112817	-0.048632	0	
382	Jul-65	3.84	0.003145024	0.013433	1	
383	Aug-65	3.84	0.003145024	0.022522	1	
384	Sep-65	3.92	0.003209405	0.032006	1	
385	Oct-65	4.03	0.003297854	0.027345	1	
386	Nov-65	4.09	0.003346063	-0.008764	0	
387	Dec-65	4.38	0.003578713	0.008951	1	

Appendix 17
Moving Probability (S P 500)

1	A	B	C	D	E	F
2	Date	3 Month		S & P 500		Moving
3	(Month-Year)	T-Bill Rate	d	Return		Probability
4	Jan-34	0.72	0.000598029	0.105941	1	
5	Feb-34	0.62	0.000515204	-0.036705	0	
6	Mar-34	0.24	0.000199780	-0.000929	0	
7	Apr-34	0.15	0.000124914	-0.026977	0	
8	May-34	0.16	0.000133236	-0.081262	0	
9	Jun-34	0.15	0.000124914	0.020812	1	
10	Jul-34	0.15	0.000124914	-0.115189	0	
11	Aug-34	0.19	0.000158196	0.054147	1	
12	Sep-34	0.21	0.000174832	-0.005464	0	
13	Oct-34	0.27	0.000224722	-0.031868	0	
14	Nov-34	0.25	0.000208095	0.082860	1	
15	Dec-34	0.23	0.000191465	-0.004193	0	
16	Jan-35	0.20	0.000166514	-0.042105	0	
17	Feb-35	0.19	0.000158196	-0.039560	0	
18	Mar-35	0.15	0.000124914	-0.030892	0	
19	Apr-35	0.15	0.000124914	0.095632	1	
20	May-35	0.15	0.000124914	0.032328	1	
21	Jun-35	0.15	0.000124914	0.067850	1	
22	Jul-35	0.15	0.000124914	0.083089	1	
23	Aug-35	0.16	0.000133236	0.021661	1	
24	Sep-35	0.20	0.000166514	0.023852	1	
25	Oct-35	0.20	0.000166514	0.075065	1	
26	Nov-35	0.16	0.000133236	0.039326	1	
27	Dec-35	0.15	0.000124914	0.037066	1	
28	Jan-36	0.20	0.000166514	0.065525	1	
29	Feb-36	0.20	0.000166514	0.016771	1	
30	Mar-36	0.20	0.000166514	0.025430	1	
31	Apr-36	0.20	0.000166514	-0.077078	0	
32	May-36	0.20	0.000166514	0.045752	1	
33	Jun-36	0.20	0.000166514	0.030556	1	
34	Jul-36	0.15	0.000124914	0.068059	1	
35	Aug-36	0.20	0.000166514	0.008833	1	
36	Sep-36	0.16	0.000133236	0.001251	1	
37	Oct-36	0.13	0.000108269	0.074953	1	
38	Nov-36	0.11	0.000091620	0.004067	1	
39	Dec-36	0.12	0.000099945	-0.005787	0	
40	Jan-37	0.17	0.000141556	0.037835	1	
41	Feb-37	0.15	0.000124914	0.014582	1	
42	Mar-37	0.38	0.000316116	-0.009397	0	
43	Apr-37	0.56	0.000465473	-0.083147	0	
44	May-37	0.41	0.000341026	-0.010347	0	
45	Jun-37	0.36	0.000299506	-0.052891	0	
46	Jul-37	0.28	0.000233034	0.102597	1	
47	Aug-37	0.29	0.000241346	-0.055359	0	
48	Sep-37	0.31	0.000257967	-0.142145	0	
49	Oct-37	0.20	0.000166514	-0.101744	0	
50	Nov-37	0.09	0.000074969	-0.101133	0	
51	Dec-37	0.11	0.000091620	-0.050405	0	
52	Jan-38	0.10	0.000083295	0.013270	1	
53	Feb-38	0.08	0.000066642	0.060804	1	
54	Mar-38	0.08	0.000066642	-0.250441	0	
55	Apr-38	0.09	0.000074969	0.141177	1	
56	May-38	0.05	0.000041657	-0.044330	0	
57	Jun-38	0.05	0.000041657	0.247033	1	
58	Jul-38	0.07	0.000058315	0.072664	1	
59	Aug-38	0.06	0.000049986	-0.027419	0	
60	Sep-38	0.08	0.000066642	0.014925	1	

Appendix 17
Moving Probability (S P 500)

	A	B	C	D	E	F
61	Oct-38	0.05	0.000041657	0.075980	1	
62	Nov-38	0.04	0.000033327	-0.033409	0	
63	Dec-38	0.03	0.000024997	0.037706	1	
64	Jan-39	0.03	0.000024997	-0.068887	0	
65	Feb-39	0.03	0.000024997	0.032520	1	
66	Mar-39	0.03	0.000024997	-0.135433	0	
67	Apr-39	0.03	0.000024997	-0.005464	0	
68	May-39	0.03	0.000024997	0.062271	1	
69	Jun-39	0.03	0.000024997	-0.063793	0	
70	Jul-39	0.04	0.000033327	0.108656	1	
71	Aug-39	0.05	0.000041657	-0.071429	0	
72	Sep-39	0.14	0.000116592	0.164580	1	
73	Oct-39	0.05	0.000041657	-0.014593	0	
74	Nov-39	0.05	0.000041657	-0.049104	0	
75	Dec-39	0.04	0.000033327	0.023770	1	
76	Jan-40	0.01	0.000008333	-0.035228	0	
77	Feb-40	0.02	0.000016665	0.006639	1	
78	Mar-40	0.02	0.000016665	0.009893	1	
79	Apr-40	0.02	0.000016665	-0.004898	0	
80	May-40	0.06	0.000049986	-0.239541	0	
81	Jun-40	0.10	0.000083295	0.076591	1	
82	Jul-40	0.05	0.000041657	0.031062	1	
83	Aug-40	0.04	0.000033327	0.026239	1	
84	Sep-40	0.05	0.000041657	0.009470	1	
85	Oct-40	0.02	0.000016665	0.039400	1	
86	Nov-40	0.02	0.000016665	-0.042419	0	
87	Dec-40	0.02	0.000016665	-0.002828	0	
88	Jan-41	0.02	0.000016665	-0.048204	0	
89	Feb-41	0.04	0.000033327	-0.014896	0	
90	Mar-41	0.11	0.000091620	0.004032	1	
91	Apr-41	0.10	0.000083295	-0.065261	0	
92	May-41	0.11	0.000091620	0.004296	1	
93	Jun-41	0.12	0.000099945	0.053476	1	
94	Jul-41	0.12	0.000099945	0.054822	1	
95	Aug-41	0.13	0.000108269	-0.008662	0	
96	Sep-41	0.10	0.000083295	-0.009709	0	
97	Oct-41	0.09	0.000074969	-0.068627	0	
98	Nov-41	0.28	0.000233034	-0.042105	0	
99	Dec-41	0.33	0.000274585	-0.045055	0	
100	Jan-42	0.27	0.000224722	0.013809	1	
101	Feb-42	0.25	0.000208095	-0.024972	0	
102	Mar-42	0.25	0.000208095	-0.067520	0	
103	Apr-42	0.32	0.000266276	-0.043695	0	
104	May-42	0.37	0.000307812	0.063969	1	
105	Jun-42	0.37	0.000307812	0.018405	1	
106	Jul-42	0.38	0.000316116	0.031325	1	
107	Aug-42	0.38	0.000316116	0.007009	1	
108	Sep-42	0.38	0.000316116	0.026682	1	
109	Oct-42	0.38	0.000316116	0.064407	1	
110	Nov-42	0.38	0.000316116	-0.013800	0	
111	Dec-42	0.38	0.000316116	0.051668	1	
112	Jan-43	0.38	0.000316116	0.071648	1	
113	Feb-43	0.38	0.000316116	0.050621	1	
114	Mar-43	0.38	0.000316116	0.052727	1	
115	Apr-43	0.38	0.000316116	0.000864	1	
116	May-43	0.38	0.000316116	0.044866	1	
117	Jun-43	0.38	0.000316116	0.019818	1	
118	Jul-43	0.38	0.000316116	-0.054251	0	
119	Aug-43	0.38	0.000316116	0.010274	1	
120	Sep-43	0.38	0.000316116	0.023729	1	

Appendix 17
Moving Probability (S P 500)

	A	B	C	D	E	F
121	Oct-43	0.38	0.000316116	-0.013245	0	
122	Nov-43	0.38	0.000316116	-0.075503	0	
123	Dec-43	0.38	0.000316116	0.058984	1	
124	Jan-44	0.38	0.000316116	0.015424	1	
125	Feb-44	0.38	0.000316116	-0.002532	0	
126	Mar-44	0.38	0.000316116	0.016920	1	
127	Apr-44	0.38	0.000316116	-0.012479	0	
128	May-44	0.38	0.000316116	0.040438	1	
129	Jun-44	0.38	0.000316116	0.051012	1	
130	Jul-44	0.38	0.000316116	-0.020801	0	
131	Aug-44	0.38	0.000316116	0.008655	1	
132	Sep-44	0.38	0.000316116	-0.003120	0	
133	Oct-44	0.38	0.000316116	0.000000	0	
134	Nov-44	0.38	0.000316116	0.003912	1	
135	Dec-44	0.38	0.000316116	0.035074	1	
136	Jan-45	0.38	0.000316116	0.014307	1	
137	Feb-45	0.38	0.000316116	0.061618	1	
138	Mar-45	0.38	0.000316116	-0.046154	0	
139	Apr-45	0.38	0.000316116	0.087977	1	
140	May-45	0.38	0.000316116	0.011456	1	
141	Jun-45	0.38	0.000316116	-0.003331	0	
142	Jul-45	0.38	0.000316116	-0.020053	0	
143	Aug-45	0.38	0.000316116	0.057981	1	
144	Sep-45	0.38	0.000316116	0.041908	1	
145	Oct-45	0.38	0.000316116	0.030322	1	
146	Nov-45	0.38	0.000316116	0.032432	1	
147	Dec-45	0.38	0.000316116	0.009889	1	
148	Jan-46	0.38	0.000316116	0.069700	1	
149	Feb-46	0.38	0.000316116	-0.069467	0	
150	Mar-46	0.38	0.000316116	0.046296	1	
151	Apr-46	0.38	0.000316116	0.037611	1	
152	May-46	0.38	0.000316116	0.022388	1	
153	Jun-46	0.38	0.000316116	-0.039103	0	
154	Jul-46	0.38	0.000316116	-0.025502	0	
155	Aug-46	0.38	0.000316116	-0.072940	0	
156	Sep-46	0.38	0.000316116	-0.101502	0	
157	Oct-46	0.38	0.000316116	-0.008021	0	
158	Nov-46	0.38	0.000316116	-0.011456	0	
159	Dec-46	0.38	0.000316116	0.042945	1	
160	Jan-47	0.38	0.000316116	0.023529	1	
161	Feb-47	0.38	0.000316116	-0.014687	0	
162	Mar-47	0.38	0.000316116	-0.016850	0	
163	Apr-47	0.38	0.000316116	-0.038893	0	
164	May-47	0.38	0.000316116	-0.008916	0	
165	Jun-47	0.38	0.000316116	0.052595	1	
166	Jul-47	0.66	0.000548343	0.036160	1	
167	Aug-47	0.75	0.000622862	-0.027919	0	
168	Sep-47	0.80	0.000664235	-0.013708	0	
169	Oct-47	0.85	0.000705589	0.021178	1	
170	Nov-47	0.92	0.000763453	-0.028516	0	
171	Dec-47	0.95	0.000788240	0.020680	1	
172	Jan-48	0.97	0.000804762	-0.039869	0	
173	Feb-48	1.00	0.000829538	-0.046971	0	
174	Mar-48	1.00	0.000829538	0.077143	1	
175	Apr-48	1.00	0.000829538	0.026525	1	
176	May-48	1.00	0.000829538	0.078165	1	
177	Jun-48	1.00	0.000829538	0.002996	1	
178	Jul-48	1.00	0.000829538	-0.053166	0	
179	Aug-48	1.06	0.000879071	0.007571	1	
180	Sep-48	1.09	0.000903827	-0.030056	0	

Appendix 17
Moving Probability (S P 500)

	A	B	C	D	E	F
181	Oct-48	1.12	0.000928576	0.067786	1	
182	Nov-48	1.14	0.000945072	-0.108222	0	
183	Dec-48	1.16	0.000961565	0.030508	1	
184	Jan-49	1.17	0.000969810	0.001316	1	
185	Feb-49	1.17	0.000969810	-0.039422	0	
186	Mar-49	1.17	0.000969810	0.030096	1	
187	Apr-49	1.17	0.000969810	-0.021248	0	
188	May-49	1.17	0.000969810	-0.037313	0	
189	Jun-49	1.17	0.000969810	-0.002114	0	
190	Jul-49	1.02	0.000846052	0.062147	1	
191	Aug-49	1.04	0.000862563	0.011968	1	
192	Sep-49	1.07	0.000887323	0.023653	1	
193	Oct-49	1.05	0.000870817	0.029525	1	
194	Nov-49	1.08	0.000895575	0.001247	1	
195	Dec-49	1.10	0.000912077	0.043587	1	
196	Jan-50	1.07	0.000887323	0.017303	1	
197	Feb-50	1.12	0.000928576	0.009971	1	
198	Mar-50	1.12	0.000928576	0.004065	1	
199	Apr-50	1.15	0.000953319	0.045113	1	
200	May-50	1.16	0.000961565	0.039292	1	
201	Jun-50	1.15	0.000953319	-0.058040	0	
202	Jul-50	1.16	0.000961565	0.008479	1	
203	Aug-50	1.20	0.000994542	0.032511	1	
204	Sep-50	1.30	0.001076932	0.055917	1	
205	Oct-50	1.31	0.001085166	0.004113	1	
206	Nov-50	1.36	0.001126330	-0.001024	0	
207	Dec-50	1.34	0.001109867	0.046130	1	
208	Jan-51	1.34	0.001109867	0.061244	1	
209	Feb-51	1.36	0.001126330	0.006464	1	
210	Mar-51	1.40	0.001159247	-0.018349	0	
211	Apr-51	1.47	0.001216823	0.048131	1	
212	May-51	1.55	0.001282580	-0.040571	0	
213	Jun-51	1.45	0.001200377	-0.026022	0	
214	Jul-51	1.56	0.001290797	0.068702	1	
215	Aug-51	1.62	0.001340079	0.039286	1	
216	Sep-51	1.63	0.001348290	-0.000859	0	
217	Oct-51	1.54	0.001274363	-0.013758	0	
218	Nov-51	1.56	0.001290797	-0.002616	0	
219	Dec-51	1.73	0.001430360	0.038899	1	
220	Jan-52	1.57	0.001299012	0.015566	1	
221	Feb-52	1.54	0.001274363	-0.036454	0	
222	Mar-52	1.59	0.001315441	0.047721	1	
223	Apr-52	1.57	0.001299012	-0.043086	0	
224	May-52	1.67	0.001381127	0.023156	1	
225	Jun-52	1.70	0.001405747	0.046102	1	
226	Jul-52	1.81	0.001495963	0.017628	1	
227	Aug-52	1.83	0.001512357	-0.014567	0	
228	Sep-52	1.71	0.001413952	-0.019577	0	
229	Oct-52	1.74	0.001438563	-0.000815	0	
230	Nov-52	1.85	0.001528747	0.046493	1	
231	Dec-52	2.09	0.001725202	0.035464	1	
232	Jan-53	1.96	0.001618842	-0.007151	0	
233	Feb-53	1.97	0.001627028	-0.018196	0	
234	Mar-53	2.01	0.001659764	-0.023552	0	
235	Apr-53	2.19	0.001806934	-0.026493	0	
236	May-53	2.16	0.001782422	-0.003249	0	
237	Jun-53	2.11	0.001741555	-0.016300	0	
238	Jul-53	2.04	0.001684309	0.025269	1	
239	Aug-53	2.04	0.001684309	-0.057778	0	
240	Sep-53	1.79	0.001479567	0.001286	0	

Appendix 17
Moving Probability (S P 500)

	A	B	C	D	E	F
241	Oct-53	1.38	0.001142790	0.050964	1	
242	Nov-53	1.44	0.001192152	0.008965	1	
243	Dec-53	1.60	0.001323654	0.002019	1	
244	Jan-54	1.18	0.000978055	0.051189	1	
245	Feb-54	0.97	0.000804762	0.002684	1	
246	Mar-54	1.03	0.000854308	0.030210	1	
247	Apr-54	0.97	0.000804762	0.048998	1	
248	May-54	0.76	0.000631138	0.032909	1	
249	Jun-54	0.64	0.000531775	0.000685	1	
250	Jul-54	0.72	0.000598029	0.057172	1	
251	Aug-54	0.92	0.000763453	-0.034003	0	
252	Sep-54	1.01	0.000837795	0.083138	1	
253	Oct-54	0.98	0.000813021	-0.019499	0	
254	Nov-54	0.93	0.000771716	0.080808	1	
255	Dec-54	1.15	0.000953319	0.050818	1	
256	Jan-55	1.22	0.001011026	0.018066	1	
257	Feb-55	1.17	0.000969810	0.003549	1	
258	Mar-55	1.28	0.001060460	-0.004897	0	
259	Apr-55	1.59	0.001315441	0.037726	1	
260	May-55	1.45	0.001200377	-0.001317	0	
261	Jun-55	1.41	0.001167474	0.082300	1	
262	Jul-55	1.60	0.001323654	0.060687	1	
263	Aug-55	1.90	0.001569710	-0.007812	0	
264	Sep-55	2.07	0.001708847	0.011348	1	
265	Oct-55	2.23	0.001839606	-0.030456	0	
266	Nov-55	2.24	0.001847772	0.074870	1	
267	Dec-55	2.54	0.002092418	-0.000659	0	
268	Jan-56	2.41	0.001986485	-0.036500	0	
269	Feb-56	2.32	0.001913075	0.034687	1	
270	Mar-56	2.25	0.001855938	0.069255	1	
271	Apr-56	2.60	0.002141268	-0.002063	0	
272	May-56	2.61	0.002149407	-0.065730	0	
273	Jun-56	2.49	0.002051689	0.039159	1	
274	Jul-56	2.31	0.001904915	0.051522	1	
275	Aug-56	2.60	0.002141268	-0.038064	0	
276	Sep-56	2.84	0.002336408	-0.045464	0	
277	Oct-56	2.90	0.002385128	0.005072	1	
278	Nov-56	2.99	0.002458159	-0.010970	0	
279	Dec-56	3.21	0.002636433	0.035271	1	
280	Jan-57	3.11	0.002555442	-0.041783	0	
281	Feb-57	3.10	0.002547339	-0.032648	0	
282	Mar-57	3.08	0.002531131	0.019649	1	
283	Apr-57	3.07	0.002523026	0.036953	1	
284	May-57	3.06	0.002514920	0.036948	1	
285	Jun-57	3.29	0.002701173	-0.001265	0	
286	Jul-57	3.16	0.002595947	0.011400	1	
287	Aug-57	3.37	0.002765868	-0.056147	0	
288	Sep-57	3.53	0.002895119	-0.061919	0	
289	Oct-57	3.58	0.002935473	-0.032060	0	
290	Nov-57	3.31	0.002717351	0.016074	1	
291	Dec-57	3.04	0.002498706	-0.041467	0	
292	Jan-58	2.44	0.002010942	0.042761	1	
293	Feb-58	1.53	0.001266145	-0.020623	0	
294	Mar-58	1.30	0.001076932	0.030852	1	
295	Apr-58	1.13	0.000936825	0.031829	1	
296	May-58	0.91	0.000755189	0.014963	1	
297	Jun-58	0.83	0.000689049	0.026083	1	
298	Jul-58	0.91	0.000755189	0.043103	1	
299	Aug-58	1.69	0.001397541	0.011867	1	
300	Sep-58	2.44	0.002010942	0.048377	1	

Appendix 17
Moving Probability (S P 500)

	A	B	C	D	E	F
301	Oct-58	2.63	0.002165684	0.025370	1	
302	Nov-58	2.67	0.002198227	0.022404	1	
303	Dec-58	2.77	0.002279536	0.052020	1	
304	Jan-59	2.82	0.002320162	0.003804	1	
305	Feb-59	2.70	0.002222627	-0.000180	0	
306	Mar-59	2.80	0.002303914	0.000541	0	
307	Apr-59	2.95	0.002425708	0.038781	1	
308	May-59	2.84	0.002336408	0.018927	1	
309	Jun-59	3.21	0.002636433	-0.003579	0	
310	Jul-59	3.20	0.002628337	0.034890	1	
311	Aug-59	3.38	0.002773951	-0.015039	0	
312	Sep-59	4.04	0.003305890	-0.045638	0	
313	Oct-59	4.05	0.003313926	0.011252	1	
314	Nov-59	4.15	0.003394246	0.013213	1	
315	Dec-59	4.49	0.003666805	0.027625	1	
316	Jan-60	4.35	0.003554674	-0.071464	0	
317	Feb-60	3.96	0.003241578	0.009171	1	
318	Mar-60	3.31	0.002717351	-0.013899	0	
319	Apr-60	3.23	0.002652622	-0.017528	0	
320	May-60	3.29	0.002701173	0.026853	1	
321	Jun-60	2.46	0.002027243	0.019524	1	
322	Jul-60	2.30	0.001896754	-0.024772	0	
323	Aug-60	2.30	0.001896754	0.026121	1	
324	Sep-60	2.48	0.002043541	-0.060393	0	
325	Oct-60	2.30	0.001896754	-0.002429	0	
326	Nov-60	2.37	0.001953866	0.040270	1	
327	Dec-60	2.25	0.001855938	0.046273	1	
328	Jan-61	2.24	0.001847772	0.063156	1	
329	Feb-61	2.42	0.001994638	0.026870	1	
330	Mar-61	2.39	0.001970177	0.025536	1	
331	Apr-61	2.29	0.001888592	0.003843	1	
332	May-61	2.29	0.001888592	0.019139	1	
333	Jun-61	2.33	0.001921235	-0.028846	0	
334	Jul-61	2.24	0.001847772	0.032797	1	
335	Aug-61	2.39	0.001970177	0.019623	1	
336	Sep-61	2.28	0.001880429	-0.019686	0	
337	Oct-61	2.30	0.001896754	0.028323	1	
338	Nov-61	2.48	0.002043541	0.039347	1	
339	Dec-61	2.60	0.002141268	0.003225	1	
340	Jan-62	2.72	0.002238890	-0.037876	0	
341	Feb-62	2.73	0.002247021	0.016270	1	
342	Mar-62	2.72	0.002238890	-0.005860	0	
343	Apr-62	2.73	0.002247021	-0.061970	0	
344	May-62	2.69	0.002214495	-0.085990	0	
345	Jun-62	2.73	0.002247021	-0.081838	0	
346	Jul-62	2.92	0.002401362	0.063562	1	
347	Aug-62	2.82	0.002320162	0.015284	1	
348	Sep-62	2.78	0.002287662	-0.048207	0	
349	Oct-62	2.74	0.002255151	0.004443	1	
350	Nov-62	2.83	0.002328286	0.101557	1	
351	Dec-62	2.87	0.002360771	0.013492	1	
352	Jan-63	2.91	0.002393245	0.049128	1	
353	Feb-63	2.92	0.002401362	-0.028852	0	
354	Mar-63	2.89	0.002377010	0.035464	1	
355	Apr-63	2.90	0.002385128	0.048520	1	
356	May-63	2.93	0.002409478	0.014327	1	
357	Jun-63	2.99	0.002458159	-0.020198	0	
358	Jul-63	3.18	0.002612143	-0.003460	0	
359	Aug-63	3.32	0.002725439	0.048749	1	
360	Sep-63	3.38	0.002773951	-0.011034	0	

Appendix 17
Moving Probability (S P 500)

	A	B	C	D	E	F
361	Oct-63	3.45	0.002830517	0.032218	1	
362	Nov-63	3.52	0.002887047	-0.010539	0	
363	Dec-63	3.52	0.002887047	0.024444	1	
364	Jan-64	3.52	0.002887047	0.026926	1	
365	Feb-64	3.53	0.002895119	0.009865	1	
366	Mar-64	3.54	0.002903192	0.015167	1	
367	Apr-64	3.47	0.002846672	0.006077	1	
368	May-64	3.48	0.002854748	0.011452	1	
369	Jun-64	3.48	0.002854748	0.016424	1	
370	Jul-64	3.46	0.002838594	0.018240	1	
371	Aug-64	3.50	0.002870899	-0.016230	0	
372	Sep-64	3.53	0.002895119	0.028718	1	
373	Oct-64	3.57	0.002927404	0.008078	1	
374	Nov-64	3.64	0.002983874	-0.005185	0	
375	Dec-64	3.84	0.003145024	0.003909	1	
376	Jan-65	3.81	0.003120870	0.033156	1	
377	Feb-65	3.93	0.003217449	-0.001485	0	
378	Mar-65	3.93	0.003217449	-0.014526	0	
379	Apr-65	3.93	0.003217449	0.034239	1	
380	May-65	3.89	0.003185267	-0.007743	0	
381	Jun-65	3.80	0.003112817	-0.048632	0	
382	Jul-65	3.84	0.003145024	0.013433	1	
383	Aug-65	3.84	0.003145024	0.022522	1	
384	Sep-65	3.92	0.003209405	0.032006	1	
385	Oct-65	4.03	0.003297854	0.027345	1	
386	Nov-65	4.09	0.003346063	-0.008764	0	
387	Dec-65	4.38	0.003578713	0.008951	1	
388	Jan-66	4.59	0.003746815	0.004869	1	0.591146
389	Feb-66	4.65	0.003794787	-0.017873	0	0.592208
390	Mar-66	4.59	0.003746815	-0.021815	0	0.590674
391	Apr-66	4.62	0.003770804	0.020509	1	0.589147
392	May-66	4.64	0.003786794	-0.054140	0	0.590206
393	Jun-66	4.50	0.003674809	-0.016138	0	0.588689
394	Jul-66	4.80	0.003914608	-0.013453	0	0.587179
395	Aug-66	4.96	0.004042243	-0.077751	0	0.585678
396	Sep-66	5.37	0.004368496	-0.007004	0	0.584184
397	Oct-66	5.35	0.004352608	0.047544	1	0.582697
398	Nov-66	5.32	0.004328771	0.003117	0	0.583756
399	Dec-66	4.96	0.004042243	-0.001492	0	0.582278
400	Jan-67	4.72	0.003850723	0.078178	1	0.580808
401	Feb-67	4.56	0.003722819	0.001963	0	0.581864
402	Mar-67	4.26	0.003482516	0.039410	1	0.580402
403	Apr-67	3.84	0.003145024	0.042239	1	0.581454
404	May-67	3.60	0.002951609	-0.052441	0	0.582500
405	Jun-67	3.54	0.002903192	0.017512	1	0.581047
406	Jul-67	4.21	0.003442404	0.045344	1	0.582090
407	Aug-67	4.27	0.003490536	-0.011715	0	0.583127
408	Sep-67	4.42	0.003610757	0.032785	1	0.581683
409	Oct-67	4.56	0.003722819	-0.029056	0	0.582716
410	Nov-67	4.73	0.003858711	0.001065	0	0.581281
411	Dec-67	4.97	0.004050214	0.026277	1	0.579853
412	Jan-68	5.00	0.004074124	-0.043848	0	0.580882
413	Feb-68	4.98	0.004058185	-0.031223	0	0.579462
414	Mar-68	5.17	0.004209494	0.009400	1	0.578049
415	Apr-68	5.38	0.004376439	0.081929	1	0.579075
416	May-68	5.66	0.004598558	0.011169	1	0.580097
417	Jun-68	5.52	0.004487566	0.009120	1	0.581114
418	Jul-68	5.31	0.004320824	-0.018478	0	0.582126
419	Aug-68	5.09	0.004145815	0.011459	1	0.580723
420	Sep-68	5.19	0.004225406	0.038539	1	0.581731

Appendix 17
Moving Probability (S P 500)

	A	B	C	D	E	F
421	Oct-68	5.35	0.004352608	0.007208	1	0.582734
422	Nov-68	5.45	0.004432019	0.047964	1	0.583732
423	Dec-68	5.96	0.004835945	-0.041617	0	0.584726
424	Jan-69	6.14	0.004978082	-0.008184	0	0.583333
425	Feb-69	6.12	0.004962300	-0.047374	0	0.581948
426	Mar-69	6.02	0.004883349	0.034444	1	0.580569
427	Apr-69	6.11	0.004954408	0.021476	1	0.581560
428	May-69	6.04	0.004899145	-0.002218	0	0.582547
429	Jun-69	6.44	0.005214487	-0.055577	0	0.581176
430	Jul-69	7.00	0.005654145	-0.060178	0	0.579812
431	Aug-69	6.98	0.005638480	0.040074	1	0.578454
432	Sep-69	7.09	0.005724608	-0.025024	0	0.579439
433	Oct-69	7.00	0.005654145	0.044244	1	0.578089
434	Nov-69	7.24	0.005841925	-0.035274	0	0.579070
435	Dec-69	7.82	0.006294141	-0.018655	0	0.577726
436	Jan-70	7.87	0.006333020	-0.076472	0	0.576389
437	Feb-70	7.13	0.005755907	0.052693	1	0.575058
438	Mar-70	6.63	0.005363894	0.001453	0	0.576037
439	Apr-70	6.51	0.005269560	-0.090483	0	0.574713
440	May-70	6.84	0.005528744	-0.060967	0	0.573394
441	Jun-70	6.68	0.005403171	-0.050033	0	0.572082
442	Jul-70	6.45	0.005222356	0.073295	1	0.570776
443	Aug-70	6.41	0.005190874	0.044459	1	0.571754
444	Sep-70	6.12	0.004962300	0.032998	1	0.572727
445	Oct-70	5.91	0.004796424	-0.011400	0	0.573696
446	Nov-70	5.28	0.004296979	0.047447	1	0.572398
447	Dec-70	4.87	0.003970470	0.056766	1	0.573363
448	Jan-71	4.44	0.003626774	0.040477	1	0.574324
449	Feb-71	3.70	0.003032249	0.009074	1	0.575281
450	Mar-71	3.38	0.002773951	0.036796	1	0.576233
451	Apr-71	3.86	0.003161124	0.036288	1	0.577181
452	May-71	4.14	0.003386217	-0.041558	0	0.578125
453	Jun-71	4.75	0.003874685	0.000703	0	0.576837
454	Jul-71	5.40	0.004392322	-0.041324	0	0.575556
455	Aug-71	4.94	0.004026298	0.036095	1	0.574279
456	Sep-71	4.69	0.003826755	-0.006968	0	0.575221
457	Oct-71	4.46	0.003642789	-0.041794	0	0.573951
458	Nov-71	4.22	0.003450428	-0.002547	0	0.572687
459	Dec-71	4.01	0.003281778	0.086179	1	0.571429
460	Jan-72	3.38	0.002773951	0.018121	1	0.572368
461	Feb-72	3.20	0.002628337	0.025303	1	0.573304
462	Mar-72	3.73	0.003056427	0.005912	1	0.574236
463	Apr-72	3.71	0.003040309	0.004384	1	0.575163
464	May-72	3.69	0.003024188	0.017275	1	0.576087
465	Jun-72	3.91	0.003201360	-0.021821	0	0.577007
466	Jul-72	3.98	0.003257660	0.002333	0	0.575758
467	Aug-72	4.02	0.003289816	0.034454	1	0.574514
468	Sep-72	4.66	0.003802780	-0.004861	0	0.575431
469	Oct-72	4.74	0.003866698	0.009317	1	0.574194
470	Nov-72	4.78	0.003898641	0.045617	1	0.575107
471	Dec-72	5.07	0.004129889	0.011828	1	0.576017
472	Jan-73	5.41	0.004400263	-0.017111	0	0.576923
473	Feb-73	5.60	0.004551007	-0.037490	0	0.575693
474	Mar-73	6.09	0.004938622	-0.001433	0	0.574468
475	Apr-73	6.26	0.005072717	-0.040800	0	0.573248
476	May-73	6.36	0.005151505	-0.018884	0	0.572034
477	Jun-73	7.19	0.005802836	-0.006575	0	0.570825
478	Jul-73	8.01	0.006441795	0.037982	1	0.569620
479	Aug-73	8.67	0.006952858	-0.036685	0	0.570526
480	Sep-73	8.29	0.006858959	0.040096	1	0.569328

Appendix 17
Moving Probability (S P 500)

	A	B	C	D	E	F
481	Oct-73	7.22	0.005826292	-0.001291	0	0.570231
482	Nov-73	7.83	0.006301918	-0.113861	0	0.569038
483	Dec-73	7.45	0.006005917	0.016569	1	0.567850
484	Jan-74	7.77	0.006255245	-0.010046	0	0.568750
485	Feb-74	7.12	0.005748083	-0.003624	0	0.567568
486	Mar-74	7.96	0.006402962	-0.023280	0	0.566390
487	Apr-74	8.33	0.006689940	-0.039051	0	0.565217
488	May-74	8.23	0.006612467	-0.033551	0	0.564050
489	Jun-74	7.90	0.006356340	-0.014665	0	0.562887
490	Jul-74	7.55	0.006083905	-0.077791	0	0.561728
491	Aug-74	8.96	0.007176517	-0.090279	0	0.560575
492	Sep-74	8.06	0.006480612	-0.119335	0	0.559426
493	Oct-74	7.46	0.006013719	0.163047	1	0.559282
494	Nov-74	7.47	0.006021520	-0.053180	0	0.559184
495	Dec-74	7.15	0.005771553	-0.020151	0	0.558045
496	Jan-75	6.26	0.005072717	0.122812	1	0.556911
497	Feb-75	5.50	0.004471699	0.059886	1	0.557809
498	Mar-75	5.49	0.004463764	0.021694	1	0.558704
499	Apr-75	5.61	0.004558934	0.047265	1	0.559596
500	May-75	5.23	0.004257223	0.044101	1	0.560484
501	Jun-75	5.34	0.004344663	0.044323	1	0.561368
502	Jul-75	6.13	0.004970192	-0.067654	0	0.562249
503	Aug-75	6.44	0.005214487	-0.021070	0	0.561122
504	Sep-75	6.42	0.005198745	-0.034645	0	0.560000
505	Oct-75	5.96	0.004835945	0.061643	1	0.558882
506	Nov-75	5.48	0.004455829	0.024708	1	0.559761
507	Dec-75	5.44	0.004424081	-0.011508	0	0.560636
508	Jan-76	4.87	0.003970470	0.118306	1	0.559524
509	Feb-76	4.88	0.003978448	-0.011402	0	0.560396
510	Mar-76	5.00	0.004074124	0.030689	1	0.559289
511	Apr-76	4.86	0.003962492	-0.010995	0	0.560158
512	May-76	5.20	0.004233362	-0.014364	0	0.559055
513	Jun-76	5.41	0.004400263	0.040926	1	0.557957
514	Jul-76	5.23	0.004257223	-0.008055	0	0.558824
515	Aug-76	5.14	0.004185819	-0.005124	0	0.557730
516	Sep-76	5.08	0.004137852	0.022641	1	0.556641
517	Oct-76	4.92	0.004010351	-0.022235	0	0.557505
518	Nov-76	4.75	0.003874685	-0.007775	0	0.556420
519	Dec-76	4.35	0.003554674	0.052498	1	0.555340
520	Jan-77	4.62	0.003770804	-0.050530	0	0.556202
521	Feb-77	4.67	0.003810772	-0.021660	0	0.555126
522	Mar-77	4.60	0.003754812	-0.014025	0	0.554054
523	Apr-77	4.54	0.003706819	0.000203	0	0.552987
524	May-77	4.96	0.004042243	-0.023568	0	0.551923
525	Jun-77	5.02	0.004090060	0.045360	1	0.550864
526	Jul-77	5.19	0.004225406	-0.016222	0	0.551724
527	Aug-77	5.49	0.004463764	-0.021042	0	0.550669
528	Sep-77	5.81	0.004717329	-0.002480	0	0.549618
529	Oct-77	6.16	0.004993862	-0.043406	0	0.548571
530	Nov-77	6.10	0.004946515	0.026966	1	0.547529
531	Dec-77	6.07	0.004922833	0.002847	0	0.548387
532	Jan-78	6.44	0.005214487	-0.061514	0	0.547348
533	Feb-78	6.45	0.005222356	-0.024762	0	0.546314
534	Mar-78	6.29	0.005096361	0.024931	1	0.545283
535	Apr-78	6.29	0.005096361	0.085416	1	0.546139
536	May-78	6.41	0.005190874	0.004234	0	0.546992
537	Jun-78	6.73	0.005442431	-0.017585	0	0.545966
538	Jul-78	7.01	0.005661977	0.053910	1	0.544944
539	Aug-78	7.08	0.005716782	0.025824	1	0.545794
540	Sep-78	7.85	0.006317470	-0.007261	0	0.546642

Appendix 17
Moving Probability (S P 500)

	A	B	C	D	E	F
541	Oct-78	7.99	0.006426264	-0.091574	0	0.545624
542	Nov-78	8.64	0.006929690	0.016640	1	0.544610
543	Dec-78	9.08	0.007268905	0.014889	1	0.545455
544	Jan-79	9.35	0.007476440	0.039746	1	0.546296
545	Feb-79	9.32	0.007453404	-0.036526	0	0.547135
546	Mar-79	9.48	0.007576197	0.055152	1	0.546125
547	Apr-79	9.46	0.007560857	0.001673	0	0.546961
548	May-79	9.61	0.007675845	-0.026336	0	0.545956
549	Jun-79	9.06	0.007253514	0.038656	1	0.544954
550	Jul-79	9.24	0.007391946	0.008746	1	0.545788
551	Aug-79	9.52	0.007606869	0.053078	1	0.546618
552	Sep-79	10.26	0.008172466	0.000000	0	0.547445
553	Oct-79	11.70	0.009263184	-0.068606	0	0.546448
554	Nov-79	11.79	0.009330925	0.042624	1	0.545455
555	Dec-79	12.04	0.009518832	0.016767	1	0.546279
556	Jan-80	12.00	0.009488793	0.057625	1	0.547101
557	Feb-80	12.86	0.010132483	-0.004380	0	0.547920
558	Mar-80	15.20	0.011861426	-0.101795	0	0.546931
559	Apr-80	13.20	0.010385726	0.041140	1	0.545946
560	May-80	8.58	0.006883336	0.046571	1	0.546763
561	Jun-80	7.07	0.005708954	0.026969	1	0.547576
562	Jul-80	8.06	0.006480612	0.065039	1	0.548387
563	Aug-80	9.13	0.007307373	0.005835	0	0.549195
564	Sep-80	10.27	0.008180085	0.025168	1	0.548214
565	Oct-80	11.62	0.009202927	0.016021	1	0.549020
566	Nov-80	13.73	0.010779100	0.102377	1	0.549822
567	Dec-80	15.49	0.012073449	-0.033874	0	0.550622
568	Jan-81	15.02	0.011729578	-0.045742	0	0.549645
569	Feb-81	14.79	0.011560831	0.013277	1	0.548673
570	Mar-81	13.36	0.010504658	0.036033	1	0.549470
571	Apr-81	13.69	0.010749470	-0.023456	0	0.550265
572	May-81	16.30	0.012663079	-0.001657	0	0.549296
573	Jun-81	14.73	0.011516759	-0.010408	0	0.548330
574	Jul-81	14.95	0.011678253	-0.002210	0	0.547368
575	Aug-81	15.51	0.012088054	-0.062099	0	0.546410
576	Sep-81	14.70	0.011494715	-0.053832	0	0.545455
577	Oct-81	13.54	0.010638273	0.049148	1	0.544503
578	Nov-81	10.86	0.008628509	0.036590	1	0.545296
579	Dec-81	10.85	0.008620927	-0.030075	0	0.546087
580	Jan-82	12.28	0.009698863	-0.017544	0	0.545139
581	Feb-82	13.48	0.010593756	-0.060548	0	0.544194
582	Mar-82	12.68	0.009998130	-0.010167	0	0.543253
583	Apr-82	12.70	0.010013068	0.040014	1	0.542314
584	May-82	12.09	0.009556368	-0.039162	0	0.543103
585	Jun-82	12.47	0.009841136	-0.020290	0	0.542169
586	Jul-82	11.35	0.008999269	-0.022991	0	0.541237
587	Aug-82	8.68	0.006960580	0.115977	1	0.540309
588	Sep-82	7.92	0.006371883	0.007614	1	0.541096
589	Oct-82	7.71	0.006208547	0.110364	1	0.541880
590	Nov-82	8.07	0.006488374	0.036123	1	0.542662
591	Dec-82	7.94	0.006387424	0.015158	1	0.543441
592	Jan-83	7.86	0.006325246	0.033134	1	0.544218
593	Feb-83	8.11	0.006519413	0.018995	1	0.544992
594	Mar-83	8.35	0.006705427	0.033095	1	0.545763
595	Apr-83	8.21	0.006596965	0.074922	1	0.546531
596	May-83	8.19	0.006581459	-0.012346	0	0.547297
597	Jun-83	8.79	0.007045473	0.035224	1	0.546374
598	Jul-83	9.08	0.007268905	-0.033014	0	0.547138
599	Aug-83	9.34	0.007468762	0.011319	1	0.546218
600	Sep-83	9.00	0.007207323	0.010158	1	0.546980

Appendix 17
Moving Probability (S P 500)

	A	B	C	D	E	F
601	Oct-83	8.64	0.006929690	-0.015174	0	0.547739
602	Nov-83	8.76	0.007022328	0.017426	1	0.546823
603	Dec-83	9.00	0.007207323	-0.008834	0	0.547579
604	Jan-84	8.90	0.007130287	-0.009216	0	0.546667
605	Feb-84	9.09	0.007276600	-0.038859	0	0.545757
606	Mar-84	9.52	0.007606869	0.013498	1	0.544850
607	Apr-84	9.69	0.007737113	0.005466	0	0.545605
608	May-84	9.83	0.007844234	-0.059356	0	0.544702
609	Jun-84	9.87	0.007874816	0.017469	1	0.543802
610	Jul-84	10.12	0.008065729	-0.016451	0	0.544554
611	Aug-84	10.47	0.008332339	0.106332	1	0.543657
612	Sep-84	10.37	0.008256244	-0.003480	0	0.544408
613	Oct-84	9.74	0.007775385	-0.000060	0	0.543514
614	Nov-84	8.61	0.006906516	-0.015112	0	0.542623
615	Dec-84	8.06	0.006480612	0.022374	1	0.541735
616	Jan-85	7.76	0.006247463	0.074085	1	0.542484
617	Feb-85	8.27	0.006643464	0.008685	1	0.543230
618	Mar-85	8.52	0.006836958	-0.002925	0	0.543974
619	Apr-85	7.95	0.006395193	-0.004594	0	0.543089
620	May-85	7.48	0.006029320	0.054051	1	0.542208
621	Jun-85	6.95	0.005614976	0.012134	1	0.542950
622	Jul-85	7.08	0.005716782	-0.004848	0	0.543689
623	Aug-85	7.14	0.005763730	-0.011995	0	0.542811
624	Sep-85	7.10	0.005732434	-0.034724	0	0.541935
625	Oct-85	7.16	0.005779375	0.042509	1	0.541063
626	Nov-85	7.24	0.005841925	0.065062	1	0.541801
627	Dec-85	7.10	0.005732434	0.045061	1	0.542536
628	Jan-86	7.07	0.005708954	0.002367	0	0.543269
629	Feb-86	7.06	0.005701126	0.071489	1	0.542400
630	Mar-86	6.56	0.005308877	0.052794	1	0.543131
631	Apr-86	6.06	0.004914938	-0.014148	0	0.543860
632	May-86	6.15	0.004985972	0.050229	1	0.542994
633	Jun-86	6.21	0.005033298	0.014110	1	0.543720
634	Jul-86	5.83	0.004733153	-0.058683	0	0.544444
635	Aug-86	5.53	0.004495498	0.071193	1	0.543582
636	Sep-86	5.21	0.004241316	-0.085439	0	0.544304
637	Oct-86	5.18	0.004217450	0.054729	1	0.543444
638	Nov-86	5.35	0.004352608	0.021477	1	0.544164
639	Dec-86	5.53	0.004495498	-0.028288	0	0.544882
640	Jan-87	5.43	0.004416143	0.131767	1	0.544025
641	Feb-87	5.59	0.004543079	0.036924	1	0.544741
642	Mar-87	5.59	0.004543079	0.026390	1	0.545455
643	Apr-87	5.64	0.004582710	-0.011450	0	0.546166
644	May-87	5.66	0.004598558	0.006034	1	0.545313
645	Jun-87	5.67	0.004606481	0.047915	1	0.546022
646	Jul-87	5.69	0.004622325	0.048224	1	0.546729
647	Aug-87	6.04	0.004899145	0.034959	1	0.547434
648	Sep-87	6.40	0.005183001	-0.024166	0	0.548137
649	Oct-87	6.13	0.004970192	-0.217630	0	0.547287
650	Nov-87	5.69	0.004622325	-0.085349	0	0.546440
651	Dec-87	5.77	0.004685672	0.072861	1	0.545595
652	Jan-88	5.81	0.004717329	0.040432	1	0.546296
653	Feb-88	5.66	0.004598558	0.041817	1	0.546995
654	Mar-88	5.70	0.004630246	-0.033343	0	0.547692
655	Apr-88	5.91	0.004796424	0.009425	1	0.546851
656	May-88	6.26	0.005072717	0.003176	0	0.547546
657	Jun-88	6.46	0.005230225	0.043256	1	0.546708
658	Jul-88	6.73	0.005442431	-0.005411	0	0.547401
659	Aug-88	7.06	0.005701126	-0.038600	0	0.546565
660	Sep-88	7.24	0.005841925	0.039729	1	0.545732

Appendix 17
Moving Probability (S P 500)

	A	B	C	D	E	F
661	Oct-88	7.35	0.005927862	0.025964	1	0.546423
662	Nov-88	7.76	0.006247463	-0.018891	0	0.547112
663	Dec-88	8.07	0.006488374	0.014688	1	0.546282
664	Jan-89	8.27	0.006643464	0.071115	1	0.546970
665	Feb-89	8.53	0.006844689	-0.028944	0	0.547655
666	Mar-89	8.82	0.007068612	0.020806	1	0.546828
667	Apr-89	8.65	0.006937413	0.050090	1	0.547511
668	May-89	8.43	0.006767347	0.035138	1	0.548193
669	Jun-89	8.15	0.006550441	-0.007925	0	0.548872
670	Jul-89	7.88	0.006340794	0.088370	1	0.548048
671	Aug-89	7.90	0.006356340	0.015517	1	0.548726
672	Sep-89	7.75	0.006239681	-0.006544	0	0.549401
673	Oct-89	7.64	0.006154037	-0.025175	0	0.548580
674	Nov-89	7.69	0.006192976	0.016541	1	0.547761
675	Dec-89	7.63	0.006146247	0.021417	1	0.548435
676	Jan-90	7.64	0.006154037	-0.068817	0	0.549107
677	Feb-90	7.74	0.006231899	0.008539	1	0.548291
678	Mar-90	7.90	0.006356340	0.024255	1	0.548961
679	Apr-90	7.77	0.006255245	-0.026887	0	0.549630
680	May-90	7.74	0.006231899	0.091989	1	0.548817
681	Jun-90	7.73	0.006224116	-0.008886	0	0.549483
682	Jul-90	7.62	0.006138457	-0.005223	0	0.548673
683	Aug-90	7.45	0.006005917	-0.094314	0	0.547865
684	Sep-90	7.36	0.005935671	-0.051184	0	0.547059
685	Oct-90	7.17	0.005787196	-0.006698	0	0.546256
686	Nov-90	7.06	0.005701126	0.059934	1	0.545455
687	Dec-90	6.74	0.005450281	0.024828	1	0.546120
688	Jan-91	6.22	0.005041183	0.041518	1	0.546784
689	Feb-91	5.94	0.004820139	0.067281	1	0.547445
690	Mar-91	5.91	0.004796424	0.022203	1	0.548105
691	Apr-91	5.65	0.004590635	0.000346	0	0.548763
692	May-91	5.46	0.004439957	0.038577	1	0.547965
693	Jun-91	5.57	0.004527222	-0.047893	0	0.548621
694	Jul-91	5.58	0.004535151	0.044859	1	0.547826
695	Aug-91	5.33	0.004336718	0.019649	1	0.548480
696	Sep-91	5.22	0.004249270	-0.019144	0	0.549133
697	Oct-91	4.99	0.004066155	0.011860	1	0.548341
698	Nov-91	4.56	0.003722819	-0.043928	0	0.548991
699	Dec-91	4.07	0.003329996	0.111588	1	0.548201
700	Jan-92	3.80	0.003112817	-0.019900	0	0.548851
701	Feb-92	3.84	0.003145024	0.009565	1	0.548063
702	Mar-92	4.04	0.003305890	-0.021832	0	0.548711
703	Apr-92	3.75	0.003072542	0.027893	1	0.547926
704	May-92	3.63	0.002975809	0.000964	0	0.548571
705	Jun-92	3.66	0.003000002	-0.017359	0	0.547789
706	Jul-92	3.21	0.002636433	0.039374	1	0.547009
707	Aug-92	3.13	0.002571646	-0.023998	0	0.547653
708	Sep-92	2.91	0.002393245	0.009106	1	0.546875
709	Oct-92	2.86	0.002352651	0.002106	0	0.547518
710	Nov-92	3.13	0.002571646	0.030262	1	0.546742
711	Dec-92	3.22	0.002644528	0.010108	1	0.547383
712	Jan-93	3.00	0.002466270	0.007046	1	0.548023
713	Feb-93	2.93	0.002409478	0.010484	1	0.548660
714	Mar-93	2.95	0.002425708	0.018697	1	0.549296
715	Apr-93	2.87	0.002360771	-0.025417	0	0.549930
716	May-93	2.96	0.002433822	0.022717	1	0.549157
717	Jun-93	3.07	0.002523026	0.000755	0	0.549790
718	Jul-93	3.04	0.002498706	-0.005327	0	0.549020
719	Aug-93	3.02	0.002482489	0.034432	1	0.548252
720	Sep-93	2.95	0.002425708	-0.009988	0	0.548883

Appendix 17
Moving Probability (S P 500)

	A	B	C	D	E	F
721	Oct-93	3.02	0.002482489	0.019393	1	0.548117
722	Nov-93	3.10	0.002547339	-0.012911	0	0.548747
723	Dec-93	3.06	0.002514920	0.010091	1	0.547983
724	Jan-94	2.98	0.002450047	0.032501	1	0.548611
725	Feb-94	3.25	0.002668809	-0.030045	0	0.549237
726	Mar-94	3.50	0.002870899	-0.045746	0	0.548476
727	Apr-94	3.68	0.003016127	0.011531	1	0.547718
728	May-94	4.14	0.003386217	0.012419	1	0.548343
729	Jun-94	4.14	0.003386217	-0.026812	0	0.548966
730	Jul-94	4.33	0.003538643	0.031467	1	0.548209
731	Aug-94	4.48	0.003658800	0.037643	1	0.548831
732	Sep-94	4.62	0.003770804	-0.026898	0	0.549451
733	Oct-94	4.95	0.004034271	0.020834	1	0.548697
734	Nov-94	5.29	0.004304928	-0.039505	0	0.549315
735	Dec-94	5.60	0.004551007	0.012299	1	0.548564
736	Jan-95	5.71	0.004638166	0.024278	1	0.549180
737	Feb-95	5.77	0.004685672	0.036074	1	0.549795
738	Mar-95	5.73	0.004654004	0.027329	1	0.550409
739	Apr-95	5.65	0.004590635	0.027960	1	0.551020
740	May-95	5.67	0.004606481	0.036312	1	0.551630
741	Jun-95	5.47	0.004447893	0.021279	1	0.552239
742	Jul-95	5.42	0.004408203	0.031776	1	0.552846
743	Aug-95	5.40	0.004392322	-0.000320	0	0.553451
744	Sep-95	5.28	0.004296979	0.040098	1	0.552703
745	Oct-95	5.28	0.004296979	-0.004979	0	0.553306
746	Nov-95	5.36	0.004360552	0.041049	1	0.552561
747	Dec-95	5.14	0.004185619	0.017444	1	0.553163
748	Jan-96	5.00	0.004074124	0.032617	1	0.553763
749	Feb-96	4.83	0.003938553	0.006934	1	0.554362
750	Mar-96	4.96	0.004042243	0.007917	1	0.554960
751	Apr-96	4.95	0.004034271	0.013431	1	0.555556
752	May-96	5.02	0.004090060	0.022853	1	0.556150
753	Jun-96	5.09	0.004145815	0.002257	0	0.556742
754	Jul-96	5.15	0.004193578	-0.045748	0	0.556000
755	Aug-96	5.05	0.004113959	0.018814	1	0.555260
756	Sep-96	5.09	0.004145815	0.054203	1	0.555851
757	Oct-96	4.99	0.004066155	0.026101	1	0.556441
758	Nov-96	5.03	0.004098027	0.073376	1	0.557029
759	Dec-96	4.91	0.004002376	-0.021505	0	0.557616
760	Jan-97	5.03	0.004098027	0.061317	1	0.556878
761	Feb-97	5.01	0.004082092	0.005928	1	0.557464
762	Mar-97	5.14	0.004185619	-0.042614	0	0.558047
763	Apr-97	5.16	0.004201536	0.058406	1	0.557312
764	May-97	5.05	0.004113959	0.058577	1	0.557895
765	Jun-97	4.93	0.004018325	0.043453	1	0.558476
766	Jul-97	5.05	0.004113959	0.078146	1	0.559055
767	Aug-97	5.14	0.004185619	-0.057466	0	0.559633
768	Sep-97	4.95	0.004034271	0.053154	1	0.558901
769	Oct-97	4.97	0.004050214	-0.034478	0	0.559477
770	Nov-97	5.14	0.004185619	0.044587	1	0.558747
771	Dec-97	5.16	0.004201536	0.015732	1	0.559322

Appendix 18
Mean and Std.Deviation S P 500
(1926-1965)

	A	B	C	D	E	F	G
1							
2	Combined nyse/amex and nanyse/amex and nasdaq indices between 251231 and 971231						
3							
4	Date	S & P 500	S & P 500				
5	(YYMMDD)	Return	ln(1+Return)				
6							
7	251231						
8	260130	0.022472	0.022223225				
9	260227	-0.043956	-0.044951342				
10	260331	-0.059113	-0.060932232				
11	260430	0.022688	0.022434455				
12	260528	0.007679	0.007649667				
13	260630	0.043184	0.042277575				
14	260731	0.045455	0.044452197				
15	260831	0.017081	0.016936760				
16	260930	0.022901	0.022642708				
17	261030	-0.031343	-0.031844703				
18	261130	0.022342	0.022096074				
19	261231	0.016579	0.016443069				
20	270131	-0.020756	-0.020974434				
21	270228	0.047691	0.046588695				
22	270331	0.006503	0.006481947				
23	270430	0.017229	0.017082264				
24	270531	0.052223	0.050905069				
25	270630	-0.009390	-0.009434364				
26	270730	0.064997	0.062971982				
27	270831	0.044501	0.043539259				
28	270930	0.043214	0.042306332				
29	271031	-0.053092	-0.054553339				
30	271130	0.067776	0.065577981				
31	271231	0.019042	0.018862970				
32	280131	-0.005096	-0.005109029				
33	280229	-0.017644	-0.017801511				
34	280331	0.108343	0.102866107				
35	280430	0.032410	0.031895875				
36	280531	0.012658	0.012578557				
37	280630	-0.040500	-0.041342964				
38	280731	0.012507	0.012429434				
39	280831	0.074112	0.071494274				
40	280929	0.023958	0.023675510				
41	281031	0.014506	0.014401795				
42	281130	0.119926	0.113262612				
43	281231	0.002883	0.002878852				
44	290131	0.057084	0.055514174				
45	290228	-0.005828	-0.005845049				
46	290328	-0.002345	-0.002347754				
47	290430	0.016060	0.015932403				
48	290531	-0.042791	-0.043733521				
49	290629	0.112364	0.106487480				
50	290731	0.045619	0.044609055				
51	290830	0.097992	0.093483057				
52	290930	-0.048880	-0.050115041				
53	291031	-0.199271	-0.222232716				
54	291127	-0.133747	-0.143578265				
55	291231	0.025335	0.025019388				
56	300131	0.062471	0.060597327				

Appendix 18
Mean and Std.Deviation S P 500
(1926-1965)

	A	B	C	D	E	F	G
57	300228	0.021501	0.021273114				
58	300331	0.079897	0.076865666				
59	300430	-0.009547	-0.009592865				
60	300529	-0.016466	-0.016603071				
61	300630	-0.164557	-0.179793156				
62	300731	0.036657	0.036001113				
63	300829	0.007544	0.007515686				
64	300930	-0.130089	-0.139364371				
65	301031	-0.088757	-0.092945677				
66	301129	-0.021842	-0.022084068				
67	301231	-0.074231	-0.077130535				
68	310131	0.048892	0.047734369				
69	310228	0.114357	0.108277557				
70	310331	-0.069158	-0.071665726				
71	310430	-0.095866	-0.100777699				
72	310529	-0.137177	-0.147545707				
73	310630	0.139017	0.130165610				
74	310731	-0.074174	-0.077068967				
75	310831	0.009468	0.009423459				
76	310930	-0.299423	-0.355850998				
77	311031	0.084449	0.081072024				
78	311130	-0.097816	-0.102936789				
79	311231	-0.145263	-0.156961460				
80	320130	-0.028325	-0.028733893				
81	320229	0.050697	0.049453753				
82	320331	-0.118215	-0.125807017				
83	320430	-0.202462	-0.226225797				
84	320531	-0.233276	-0.265628386				
85	320630	-0.008949	-0.008989283				
86	320730	0.376975	0.319889064				
87	320831	0.375410	0.318751868				
88	320930	-0.036949	-0.037648909				
89	321031	-0.138614	-0.149212559				
90	321130	-0.058908	-0.060714376				
91	321231	0.051908	0.050605658				
92	330131	0.007257	0.007230795				
93	330228	-0.184438	-0.203877833				
94	330331	0.033569	0.033017861				
95	330429	0.422222	0.352220437				
96	330531	0.158654	0.147258987				
97	330630	0.131743	0.123758922				
98	330731	-0.087993	-0.092107613				
99	330831	0.114573	0.108471372				
100	330930	-0.113616	-0.120605014				
101	331031	-0.088505	-0.092669170				
102	331129	0.102679	0.097742673				
103	331230	0.022267	0.022022710				
104	340131	0.105941	0.100696556				
105	340228	-0.036705	-0.037395580				
106	340331	-0.000929	-0.000929432				
107	340430	-0.026977	-0.027347559				
108	340531	-0.081262	-0.084754290				
109	340630	0.020812	0.020598389				
110	340731	-0.115189	-0.122381216				
111	340831	0.054147	0.052731909				
112	340929	-0.005464	-0.005478982				

Appendix 18
Mean and Std.Deviation S P 500
(1926-1965)

	A	B	C	D	E	F	G
113	341031	-0.031868	-0.032386837				
114	341130	0.082860	0.079605689				
115	341231	-0.004193	-0.004201815				
116	350131	-0.042105	-0.043017110				
117	350228	-0.039560	-0.040363766				
118	350330	-0.030892	-0.031379218				
119	350430	0.095632	0.091331366				
120	350531	0.032328	0.031816446				
121	350629	0.067850	0.065647281				
122	350731	0.083089	0.079817144				
123	350831	0.021661	0.021429734				
124	350930	0.023852	0.023571985				
125	351031	0.075065	0.072381125				
126	351130	0.039326	0.038572426				
127	351231	0.037066	0.036395572				
128	360131	0.065525	0.063467635				
129	360229	0.016771	0.016631920				
130	360331	0.025430	0.025112037				
131	360430	-0.077078	-0.080210555				
132	360529	0.045752	0.044736244				
133	360630	0.030556	0.030098462				
134	360731	0.068059	0.065842982				
135	360831	0.008833	0.008794217				
136	360930	0.001251	0.001250218				
137	361031	0.074953	0.072276940				
138	361130	0.004067	0.004058752				
139	361231	-0.005787	-0.005803810				
140	370130	0.037835	0.037136813				
141	370227	0.014582	0.014476705				
142	370331	-0.009397	-0.009441430				
143	370430	-0.083147	-0.086808125				
144	370528	-0.010347	-0.010400902				
145	370630	-0.052891	-0.054341092				
146	370731	0.102597	0.097668306				
147	370831	-0.055359	-0.056950318				
148	370930	-0.142145	-0.153320191				
149	371030	-0.101744	-0.107300173				
150	371130	-0.101133	-0.106620198				
151	371231	-0.050405	-0.051719701				
152	380131	0.013270	0.013182725				
153	380228	0.060804	0.059027111				
154	380331	-0.250441	-0.288270245				
155	380430	0.141177	0.132060186				
156	380531	-0.044330	-0.045342614				
157	380630	0.247033	0.220767130				
158	380730	0.072664	0.070145274				
159	380831	-0.027419	-0.027801916				
160	380930	0.014925	0.014814718				
161	381031	0.075980	0.073231874				
162	381130	-0.033409	-0.033979831				
163	381231	0.037706	0.037012508				
164	390131	-0.068887	-0.071374634				
165	390228	0.032520	0.032002416				
166	390331	-0.135433	-0.145526475				
167	390429	-0.005464	-0.005478982				
168	390531	0.062271	0.060409069				

Appendix 18
Mean and Std.Deviation S P 500
(1926-1965)

	A	B	C	D	E	F	G
169	390630	-0.063793	-0.065918673				
170	390731	0.108656	0.103148471				
171	390831	-0.071429	-0.074108434				
172	390930	0.164580	0.152360507				
173	391031	-0.014593	-0.014700525				
174	391130	-0.049104	-0.050350581				
175	391230	0.023770	0.023491892				
176	400131	-0.035228	-0.035863475				
177	400229	0.006639	0.006617059				
178	400330	0.009893	0.009844385				
179	400430	-0.004898	-0.004910035				
180	400531	-0.239541	-0.273833081				
181	400629	0.076591	0.073799567				
182	400731	0.031062	0.030589339				
183	400831	0.026239	0.025900663				
184	400930	0.009470	0.009425441				
185	401031	0.039400	0.038643624				
186	401130	-0.042419	-0.043344966				
187	401231	-0.002828	-0.002832006				
188	410131	-0.048204	-0.049404553				
189	410228	-0.014896	-0.015008060				
190	410331	0.004032	0.004023893				
191	410430	-0.065261	-0.067487933				
192	410531	0.004296	0.004286799				
193	410630	0.053476	0.052095173				
194	410731	0.054822	0.053372032				
195	410830	-0.008662	-0.008699733				
196	410930	-0.009709	-0.009756440				
197	411031	-0.068627	-0.071095437				
198	411129	-0.042105	-0.043017110				
199	411231	-0.045055	-0.046101532				
200	420131	0.013809	0.013714525				
201	420228	-0.024972	-0.025289090				
202	420331	-0.067520	-0.069907575				
203	420430	-0.043695	-0.044678379				
204	420529	0.063969	0.062006255				
205	420630	0.018405	0.018237678				
206	420731	0.031325	0.030844383				
207	420831	0.007009	0.006984551				
208	420930	0.026682	0.026332243				
209	421031	0.064407	0.062417837				
210	421130	-0.013800	-0.013896105				
211	421231	0.051668	0.050377475				
212	430130	0.071648	0.069197651				
213	430227	0.050621	0.049381418				
214	430331	0.052727	0.051383940				
215	430430	0.000864	0.000863627				
216	430529	0.044866	0.043888648				
217	430630	0.019818	0.019624180				
218	430731	-0.054251	-0.055778073				
219	430831	0.010274	0.010221581				
220	430930	0.023729	0.023451843				
221	431030	-0.013245	-0.013333497				
222	431130	-0.075503	-0.078505473				
223	431231	0.058984	0.057309958				
224	440131	0.015424	0.015306259				

Appendix 18
Mean and Std.Deviation S P 500
(1926-1965)

	A	B	C	D	E	F	G
225	440229	-0.002532	-0.002535211				
226	440331	0.016920	0.016778451				
227	440429	-0.012479	-0.012557517				
228	440531	0.040438	0.039641778				
229	440630	0.051012	0.049753510				
230	440731	-0.020801	-0.021020388				
231	440831	0.008655	0.008617760				
232	440930	-0.003120	-0.003124877				
233	441031	0.000000	0.000000000				
234	441130	0.003912	0.003904368				
235	441230	0.035074	0.034472922				
236	450131	0.014307	0.014205621				
237	450228	0.061618	0.059794159				
238	450331	-0.046154	-0.047253046				
239	450430	0.087977	0.084320009				
240	450531	0.011456	0.011390877				
241	450630	-0.003331	-0.003336560				
242	450731	-0.020053	-0.020256790				
243	450831	0.057981	0.056362375				
244	450929	0.041908	0.041053648				
245	451031	0.030322	0.029871375				
246	451130	0.032432	0.031917184				
247	451231	0.009889	0.009840424				
248	460131	0.069700	0.067378235				
249	460228	-0.069467	-0.071997739				
250	460330	0.046296	0.045256308				
251	460430	0.037611	0.036920955				
252	460531	0.022388	0.022141067				
253	460628	-0.039103	-0.039888056				
254	460731	-0.025502	-0.025832812				
255	460830	-0.072940	-0.075736991				
256	460930	-0.101502	-0.107030799				
257	461031	-0.008021	-0.008053341				
258	461130	-0.011456	-0.011522125				
259	461231	0.042945	0.042048442				
260	470131	0.023529	0.023256460				
261	470228	-0.014687	-0.014795922				
262	470331	-0.016850	-0.016993576				
263	470430	-0.038893	-0.039669534				
264	470529	-0.008916	-0.008955985				
265	470630	0.052595	0.051258544				
266	470731	0.036160	0.035521572				
267	470829	-0.027919	-0.028316145				
268	470930	-0.013708	-0.013802822				
269	471031	0.021178	0.020956863				
270	471129	-0.028516	-0.028930480				
271	471231	0.020680	0.020469072				
272	480131	-0.039869	-0.040685545				
273	480228	-0.046971	-0.048109946				
274	480331	0.077143	0.074312166				
275	480430	0.026525	0.026179312				
276	480528	0.078165	0.075260522				
277	480630	0.002996	0.002991521				
278	480730	-0.053166	-0.054631492				
279	480831	0.007571	0.007542484				
280	480930	-0.030056	-0.030516941				

Appendix 18
Mean and Std.Deviation S P 500
(1926-1965)

	A	B	C	D	E	F	G
281	481030	0.067786	0.065587346				
282	481130	-0.108222	-0.114538056				
283	481231	0.030508	0.030051885				
284	490131	0.001316	0.001315135				
285	490228	-0.039422	-0.040220092				
286	490331	0.030096	0.029652002				
287	490430	-0.021248	-0.021476988				
288	490531	-0.037313	-0.038026946				
289	490630	-0.002114	-0.002116238				
290	490729	0.062147	0.060292331				
291	490831	0.011968	0.011896950				
292	490930	0.023653	0.023377602				
293	491031	0.029525	0.029097531				
294	491130	0.001247	0.001246223				
295	491231	0.043587	0.042663817				
296	500131	0.017303	0.017155008				
297	500228	0.009971	0.009921618				
298	500331	0.004065	0.004056760				
299	500429	0.045113	0.044125014				
300	500531	0.039292	0.038539712				
301	500630	-0.058040	-0.059792468				
302	500731	0.008479	0.008443255				
303	500831	0.032511	0.031993700				
304	500929	0.055917	0.054409584				
305	501031	0.004113	0.004104565				
306	501130	-0.001024	-0.001024525				
307	501230	0.046130	0.045097641				
308	510131	0.061244	0.059441805				
309	510228	0.006464	0.006443198				
310	510331	-0.018349	-0.018519431				
311	510430	0.048131	0.047008578				
312	510531	-0.040571	-0.041416963				
313	510629	-0.026022	-0.026366563				
314	510731	0.068702	0.066444828				
315	510831	0.039286	0.038533939				
316	510928	-0.000859	-0.000859369				
317	511031	-0.013758	-0.013853518				
318	511130	-0.002616	-0.002619428				
319	511231	0.038899	0.038161499				
320	520131	0.015566	0.015446093				
321	520229	-0.036454	-0.037135050				
322	520331	0.047721	0.046617329				
323	520430	-0.043086	-0.044041756				
324	520529	0.023156	0.022891968				
325	520630	0.046102	0.045070875				
326	520731	0.017628	0.017474429				
327	520829	-0.014567	-0.014674140				
328	520930	-0.019577	-0.019771168				
329	521031	-0.000815	-0.000815332				
330	521128	0.046493	0.045444574				
331	521231	0.035464	0.034849635				
332	530130	-0.007151	-0.007176691				
333	530227	-0.018196	-0.018363583				
334	530331	-0.023552	-0.023833781				
335	530430	-0.026493	-0.026850264				
336	530529	-0.003249	-0.003254289				

Appendix 18
Mean and Std.Deviation S P 500
(1926-1965)

	A	B	C	D	E	F	G
337	530630	-0.016300	-0.016434306				
338	530731	0.025269	0.024955017				
339	530831	-0.057778	-0.059514363				
340	530930	0.001286	0.001285174				
341	531030	0.050964	0.049707838				
342	531130	0.008965	0.008925053				
343	531231	0.002019	0.002016965				
344	540129	0.051189	0.049921904				
345	540226	0.002684	0.002680405				
346	540331	0.030210	0.029762665				
347	540430	0.048998	0.047835423				
348	540528	0.032909	0.032379093				
349	540630	0.000685	0.000684765				
350	540730	0.057172	0.055597418				
351	540831	-0.034003	-0.034594550				
352	540930	0.083138	0.079862384				
353	541029	-0.019499	-0.019691613				
354	541130	0.080808	0.077708910				
355	541231	0.050818	0.049568908				
356	550131	0.018066	0.017904749				
357	550228	0.003549	0.003542717				
358	550331	-0.004897	-0.004909030				
359	550429	0.037726	0.037031781				
360	550531	-0.001317	-0.001317868				
361	550630	0.082300	0.079088406				
362	550729	0.060687	0.058916811				
363	550831	-0.007812	-0.007842674				
364	550930	0.011348	0.011284094				
365	551031	-0.030456	-0.030929421				
366	551130	0.074870	0.072199724				
367	551230	-0.000659	-0.000659217				
368	560131	-0.036500	-0.037182791				
369	560229	0.034687	0.034098966				
370	560329	0.069255	0.066962144				
371	560430	-0.002063	-0.002065131				
372	560531	-0.065730	-0.067989803				
373	560629	0.039159	0.038411732				
374	560731	0.051522	0.050238638				
375	560831	-0.038064	-0.038807359				
376	560928	-0.045464	-0.046529920				
377	561031	0.005072	0.005059181				
378	561130	-0.010970	-0.011030614				
379	561231	0.035271	0.034663228				
380	570131	-0.041783	-0.042681013				
381	570228	-0.032648	-0.033192837				
382	570329	0.019649	0.019458450				
383	570430	0.036953	0.036286605				
384	570531	0.036948	0.036281783				
385	570628	-0.001265	-0.001265801				
386	570731	0.011400	0.011335510				
387	570830	-0.056147	-0.057784845				
388	570930	-0.061919	-0.063918980				
389	571031	-0.032060	-0.032585177				
390	571129	0.016074	0.015946181				
391	571231	-0.041467	-0.042351288				
392	580131	0.042761	0.041872003				

Appendix 18
Mean and Std.Deviation S P 500
(1926-1965)

	A	B	C	D	E	F	G
393	580228	-0.020623	-0.020838624				
394	580331	0.030852	0.030385645				
395	580430	0.031829	0.031332956				
396	580529	0.014963	0.014852159				
397	580630	0.026083	0.025748640				
398	580731	0.043103	0.042199925				
399	580829	0.011867	0.011797139				
400	580930	0.048377	0.047243254				
401	581031	0.025370	0.025053523				
402	581128	0.022404	0.022156717				
403	581231	0.052020	0.050712126				
404	590130	0.003804	0.003796783				
405	590227	-0.000180	-0.000180016				
406	590331	0.000541	0.000540854				
407	590430	0.038781	0.038047910				
408	590529	0.018927	0.018750113				
409	590630	-0.003579	-0.003585420				
410	590731	0.034890	0.034295141				
411	590831	-0.015039	-0.015153233				
412	590930	-0.045638	-0.046712225				
413	591030	0.011252	0.011189167				
414	591130	0.013213	0.013126470				
415	591231	0.027625	0.027250314				
416	600129	-0.071464	-0.074146127				
417	600229	0.009171	0.009129202				
418	600331	-0.013899	-0.013996496				
419	600429	-0.017528	-0.017683434				
420	600531	0.026853	0.026498785				
421	600630	0.019524	0.019335852				
422	600729	-0.024772	-0.025083989				
423	600831	0.026121	0.025785674				
424	600930	-0.060393	-0.062293576				
425	601031	-0.002429	-0.002431955				
426	601130	0.040270	0.039480295				
427	601230	0.046273	0.045234326				
428	610131	0.063156	0.061241843				
429	610228	0.026870	0.026515341				
430	610330	0.025536	0.025215403				
431	610428	0.003843	0.003835635				
432	610531	0.019139	0.018958153				
433	610630	-0.028846	-0.029270224				
434	610731	0.032797	0.032270656				
435	610831	0.019623	0.019432951				
436	610929	-0.019686	-0.019882350				
437	611031	0.028323	0.027929320				
438	611130	0.039347	0.038592631				
439	611229	0.003225	0.003219811				
440	620131	-0.037876	-0.038611938				
441	620228	0.016270	0.016139062				
442	620330	-0.005860	-0.005877237				
443	620430	-0.061970	-0.063973348				
444	620531	-0.085990	-0.089913767				
445	620629	-0.081838	-0.085381433				
446	620731	0.063562	0.061623852				
447	620831	0.015284	0.015168376				
448	620928	-0.048207	-0.049407705				

Appendix 18
Mean and Std.Deviation S P 500
(1926-1965)

	A	B	C	D	E	F	G
449	621031	0.004443	0.004433159				
450	621130	0.101557	0.096724634				
451	621231	0.013492	0.013401793				
452	630131	0.049128	0.047959343				
453	630228	-0.028852	-0.029276402				
454	630329	0.035464	0.034849635				
455	630430	0.048520	0.047379646				
456	630531	0.014327	0.014225338				
457	630628	-0.020198	-0.020404769				
458	630731	-0.003460	-0.003466000				
459	630830	0.048749	0.047598025				
460	630930	-0.011034	-0.011095326				
461	631031	0.032218	0.031709885				
462	631129	-0.010539	-0.010594929				
463	631231	0.024444	0.024150026				
464	640131	0.026926	0.026569874				
465	640228	0.009865	0.009816659				
466	640331	0.015167	0.015053131				
467	640430	0.006077	0.006058610				
468	640528	0.011452	0.011386922				
469	640630	0.016424	0.016290585				
470	640731	0.018240	0.018075647				
471	640831	-0.016230	-0.016363149				
472	640930	0.028718	0.028313367				
473	641030	0.008078	0.008045548				
474	641130	-0.005185	-0.005198489				
475	641231	0.003909	0.003901380				
476	650129	0.033156	0.032618195				
477	650226	-0.001485	-0.001486104				
478	650331	-0.014526	-0.014632535				
479	650430	0.034239	0.033665891				
480	650528	-0.007743	-0.007773133				
481	650630	-0.048632	-0.049854330				
482	650730	0.013433	0.013343577				
483	650831	0.022522	0.022272125				
484	650930	0.032006	0.031504481				
485	651029	0.027345	0.026977804				
486	651130	-0.008764	-0.008802630				
487	651231	0.008951	0.008911177				
488		Mean	0.004174852				
489		Standard Deviation	0.065385334				

Appendix 19
Probability S P 500 > T-bill
Using Lognormal Distribution

	A	B	C	D	E	F
1						S & P 500
2					Mean	0.050098229
3					Standard Deviation	0.226501442
4						
5	Date	3 Month			S & P 500	
6	(Month-Year)	T-Bill Rate	d		Pr stock > t-bill	
7						
8	Jan-66	4.59	0.003747	-0.006317183	0.502520190	
9	Feb-66	4.65	0.003795	-0.005999745	0.502393552	
10	Mar-66	4.59	0.003747	-0.006317183	0.502520190	
11	Apr-66	4.62	0.003771	-0.006158442	0.502456862	
12	May-66	4.64	0.003787	-0.006052639	0.502414653	
13	Jun-66	4.50	0.003675	-0.006793682	0.502710282	
14	Jul-66	4.80	0.003915	-0.005206945	0.502077274	
15	Aug-66	4.96	0.004042	-0.004362541	0.501740407	
16	Sep-66	5.37	0.004368	-0.002204619	0.500879520	
17	Oct-66	5.35	0.004353	-0.002309688	0.500921437	
18	Nov-66	5.32	0.004329	-0.002467330	0.500984327	
19	Dec-66	4.96	0.004042	-0.004362541	0.501740407	
20	Jan-67	4.72	0.003851	-0.005629630	0.502245899	
21	Feb-67	4.56	0.003723	-0.006475971	0.502583536	
22	Mar-67	4.26	0.003483	-0.008066355	0.503217994	
23	Apr-67	3.84	0.003145	-0.010300599	0.504109295	
24	May-67	3.60	0.002952	-0.011581370	0.504620221	
25	Jun-67	3.54	0.002903	-0.011902027	0.504748136	
26	Jul-67	4.21	0.003442	-0.008331864	0.503323914	
27	Aug-67	4.27	0.003491	-0.008013269	0.503196816	
28	Sep-67	4.42	0.003611	-0.007217582	0.502879390	
29	Oct-67	4.56	0.003723	-0.006475971	0.502583536	
30	Nov-67	4.73	0.003859	-0.005576777	0.502224814	
31	Dec-67	4.97	0.004050	-0.004309809	0.501719370	
32	Jan-68	5.00	0.004074	-0.004151642	0.501656271	
33	Feb-68	4.98	0.004058	-0.004257081	0.501698335	
34	Mar-68	5.17	0.004209	-0.003256213	0.501299047	
35	Apr-68	5.38	0.004376	-0.002152091	0.500858565	
36	May-68	5.66	0.004599	-0.000683347	0.500272617	
37	Jun-68	5.52	0.004488	-0.001417232	0.500565397	
38	Jul-68	5.31	0.004321	-0.002519887	0.501005295	
39	Aug-68	5.09	0.004146	-0.003677411	0.501467080	
40	Sep-68	5.19	0.004225	-0.003150964	0.501257058	
41	Oct-68	5.35	0.004353	-0.002309688	0.500921437	
42	Nov-68	5.45	0.004432	-0.001784540	0.500711932	
43	Dec-68	5.96	0.004836	0.000885995	0.499646537	
44	Jan-69	6.14	0.004978	0.001825469	0.499271739	
45	Feb-69	6.12	0.004962	0.001721161	0.499313352	
46	Mar-69	6.02	0.004883	0.001199330	0.499521534	
47	Apr-69	6.11	0.004954	0.001669000	0.499334162	
48	May-69	6.04	0.004899	0.001303736	0.499479882	
49	Jun-69	6.44	0.005214	0.003387723	0.498648488	
50	Jul-69	7.00	0.005654	0.006292187	0.497489782	
51	Aug-69	6.98	0.005638	0.006188718	0.497531060	
52	Sep-69	7.09	0.005725	0.006757557	0.497304129	
53	Oct-69	7.00	0.005654	0.006292187	0.497489782	

Appendix 19
Probability S P 500 > T-bill
Using Lognormal Distribution

	A	B	C	D	E	F
54	Nov-69	7.24	0.005842	0.007532306	0.496995055	
55	Dec-69	7.82	0.006294	0.010517841	0.495804042	
56	Jan-70	7.87	0.006333	0.010774462	0.495701670	
57	Feb-70	7.13	0.005756	0.006964263	0.497221667	
58	Mar-70	6.63	0.005364	0.004374876	0.498254672	
59	Apr-70	6.51	0.005270	0.003751616	0.498503316	
60	May-70	6.84	0.005529	0.005463894	0.497820220	
61	Jun-70	6.68	0.005403	0.004634360	0.498151153	
62	Jul-70	6.45	0.005222	0.003439723	0.498627744	
63	Aug-70	6.41	0.005191	0.003231696	0.498710734	
64	Sep-70	6.12	0.004962	0.001721161	0.499313352	
65	Oct-70	5.91	0.004796	0.000624747	0.499750761	
66	Nov-70	5.28	0.004297	-0.002677589	0.501068209	
67	Dec-70	4.87	0.003970	-0.004837360	0.501929831	
68	Jan-71	4.44	0.003627	-0.007111576	0.502837101	
69	Feb-71	3.70	0.003032	-0.011047356	0.504407192	
70	Mar-71	3.38	0.002774	-0.012758020	0.505089603	
71	Apr-71	3.86	0.003161	-0.010194002	0.504066771	
72	May-71	4.14	0.003386	-0.008703791	0.503472286	
73	Jun-71	4.75	0.003875	-0.005471086	0.502182649	
74	Jul-71	5.40	0.004392	-0.002047052	0.500816660	
75	Aug-71	4.94	0.004026	-0.004468021	0.501782487	
76	Sep-71	4.69	0.003827	-0.005788221	0.502309167	
77	Oct-71	4.46	0.003643	-0.007005591	0.502794820	
78	Nov-71	4.22	0.003450	-0.008278752	0.503302726	
79	Dec-71	4.01	0.003282	-0.009395176	0.503748099	
80	Jan-72	3.38	0.002774	-0.012758020	0.505089603	
81	Feb-72	3.20	0.002628	-0.013722597	0.505474382	
82	Mar-72	3.73	0.003056	-0.010887251	0.504343323	
83	Apr-72	3.71	0.003040	-0.010993982	0.504385901	
84	May-72	3.69	0.003024	-0.011100734	0.504428486	
85	Jun-72	3.91	0.003201	-0.009927598	0.503960496	
86	Jul-72	3.98	0.003258	-0.009554849	0.503811797	
87	Aug-72	4.02	0.003290	-0.009341962	0.503726870	
88	Sep-72	4.66	0.003803	-0.005946856	0.502372453	
89	Oct-72	4.74	0.003867	-0.005523929	0.502203731	
90	Nov-72	4.78	0.003899	-0.005312586	0.502119418	
91	Dec-72	5.07	0.004130	-0.003782760	0.501509108	
92	Jan-73	5.41	0.004400	-0.001994539	0.500795710	
93	Feb-73	5.60	0.004551	-0.000997750	0.500398047	
94	Mar-73	6.09	0.004939	0.001564664	0.499375786	
95	Apr-73	6.26	0.005073	0.002450900	0.499022228	
96	May-73	6.36	0.005152	0.002971553	0.498814516	
97	Jun-73	7.19	0.005803	0.007274177	0.497098032	
98	Jul-73	8.01	0.006442	0.011492370	0.495415283	
99	Aug-73	8.67	0.006953	0.014864305	0.494070187	
100	Sep-73	8.29	0.006659	0.012925397	0.494843628	
101	Oct-73	7.22	0.005826	0.007429069	0.497036240	
102	Nov-73	7.83	0.006302	0.010569175	0.495783564	
103	Dec-73	7.45	0.006006	0.008615137	0.496563081	
104	Jan-74	7.77	0.006255	0.010261101	0.495906462	
105	Feb-74	7.12	0.005748	0.006912594	0.497242280	
106	Mar-74	7.96	0.006403	0.011236081	0.495517521	

Appendix 19
Probability S P 500 > T-bill
Using Lognormal Distribution

	A	B	C	D	E	F
107	Apr-74	8.33	0.006690	0.013129813	0.494762084	
108	May-74	8.23	0.006612	0.012618632	0.494966000	
109	Jun-74	7.90	0.006356	0.010928378	0.495640270	
110	Jul-74	7.55	0.006084	0.009130026	0.496357676	
111	Aug-74	8.96	0.007177	0.016339441	0.493481762	
112	Sep-74	8.06	0.006481	0.011748540	0.495313093	
113	Oct-74	7.46	0.006014	0.008666647	0.496542531	
114	Nov-74	7.47	0.006022	0.008718153	0.496521984	
115	Dec-74	7.15	0.005772	0.007067587	0.497180448	
116	Jan-75	6.26	0.005073	0.002450900	0.499022228	
117	Feb-75	5.50	0.004472	-0.001522152	0.500607254	
118	Mar-75	5.49	0.004464	-0.001574620	0.500628186	
119	Apr-75	5.61	0.004559	-0.000945337	0.500377137	
120	May-75	5.23	0.004257	-0.002940525	0.501173105	
121	Jun-75	5.34	0.004345	-0.002362231	0.500942398	
122	Jul-75	6.13	0.004970	0.001773317	0.499292545	
123	Aug-75	6.44	0.005214	0.003387723	0.498648488	
124	Sep-75	6.42	0.005199	0.003283710	0.498689984	
125	Oct-75	5.96	0.004836	0.000885995	0.499646537	
126	Nov-75	5.48	0.004456	-0.001627092	0.500649119	
127	Dec-75	5.44	0.004424	-0.001837032	0.500732874	
128	Jan-76	4.87	0.003970	-0.004837360	0.501929831	
129	Feb-76	4.88	0.003978	-0.004784582	0.501908776	
130	Mar-76	5.00	0.004074	-0.004151642	0.501656271	
131	Apr-76	4.86	0.003962	-0.004890143	0.501950889	
132	May-76	5.20	0.004233	-0.003098346	0.501236067	
133	Jun-76	5.41	0.004400	-0.001994539	0.500795710	
134	Jul-76	5.23	0.004257	-0.002940525	0.501173105	
135	Aug-76	5.14	0.004186	-0.003414125	0.501362044	
136	Sep-76	5.08	0.004138	-0.003730083	0.501488093	
137	Oct-76	4.92	0.004010	-0.004573522	0.501824576	
138	Nov-76	4.75	0.003875	-0.005471086	0.502182649	
139	Dec-76	4.35	0.003555	-0.007588760	0.503027466	
140	Jan-77	4.62	0.003771	-0.006158442	0.502456862	
141	Feb-77	4.67	0.003811	-0.005893973	0.502351355	
142	Mar-77	4.60	0.003755	-0.006264264	0.502499078	
143	Apr-77	4.54	0.003707	-0.006581854	0.502625776	
144	May-77	4.96	0.004042	-0.004362541	0.501740407	
145	Jun-77	5.02	0.004090	-0.004046222	0.501614214	
146	Jul-77	5.19	0.004225	-0.003150964	0.501257058	
147	Aug-77	5.49	0.004464	-0.001574620	0.500628186	
148	Sep-77	5.81	0.004717	0.000101880	0.499959356	
149	Oct-77	6.16	0.004994	0.001929756	0.499230135	
150	Nov-77	6.10	0.004947	0.001616834	0.499354973	
151	Dec-77	6.07	0.004923	0.001460307	0.499417418	
152	Jan-78	6.44	0.005214	0.003387723	0.498648488	
153	Feb-78	6.45	0.005222	0.003439723	0.498627744	
154	Mar-78	6.29	0.005096	0.002607147	0.498959894	
155	Apr-78	6.29	0.005096	0.002607147	0.498959894	
156	May-78	6.41	0.005191	0.003231696	0.498710734	
157	Jun-78	6.73	0.005442	0.004893723	0.498047683	
158	Jul-78	7.01	0.005662	0.006343914	0.497469147	
159	Aug-78	7.08	0.005717	0.006705869	0.497324750	

Appendix 19
Probability S P 500 > T-bill
Using Lognormal Distribution

	A	B	C	D	E	F
160	Sep-78	7.85	0.006317	0.010671828	0.495742613	
161	Oct-78	7.99	0.006426	0.011389869	0.495456173	
162	Nov-78	8.64	0.006930	0.014711480	0.494131149	
163	Dec-78	9.08	0.007269	0.016948694	0.493238738	
164	Jan-79	9.35	0.007476	0.018317067	0.492692919	
165	Feb-79	9.32	0.007453	0.018165192	0.492753498	
166	Mar-79	9.48	0.007576	0.018974709	0.492430602	
167	Apr-79	9.46	0.007561	0.018873584	0.492470938	
168	May-79	9.61	0.007676	0.019631570	0.492168600	
169	Jun-79	9.06	0.007254	0.016847199	0.493279223	
170	Jul-79	9.24	0.007392	0.017759990	0.492915125	
171	Aug-79	9.52	0.007607	0.019176903	0.492349953	
172	Sep-79	10.26	0.008172	0.022904233	0.490863288	
173	Oct-79	11.70	0.009263	0.030086253	0.487999079	
174	Nov-79	11.79	0.009331	0.030532050	0.487821313	
175	Dec-79	12.04	0.009519	0.031768494	0.487328281	
176	Jan-80	12.00	0.009489	0.031570849	0.487407091	
177	Feb-80	12.86	0.010132	0.035804753	0.485718963	
178	Mar-80	15.20	0.011861	0.047163612	0.481191348	
179	Apr-80	13.20	0.010386	0.037469730	0.485055177	
180	May-80	8.58	0.006883	0.014405703	0.494253124	
181	Jun-80	7.07	0.005709	0.006654175	0.497345372	
182	Jul-80	8.06	0.006481	0.011748540	0.495313093	
183	Aug-80	9.13	0.007307	0.017202352	0.493137557	
184	Sep-80	10.27	0.008180	0.022954431	0.490843267	
185	Oct-80	11.62	0.009203	0.029689687	0.488157216	
186	Nov-80	13.73	0.010779	0.040055188	0.484024502	
187	Dec-80	15.49	0.012073	0.048555237	0.480636805	
188	Jan-81	15.02	0.011730	0.046298081	0.481536268	
189	Feb-81	14.79	0.011561	0.045190153	0.481977806	
190	Mar-81	13.36	0.010505	0.038251519	0.484743512	
191	Apr-81	13.69	0.010749	0.039860480	0.484102117	
192	May-81	16.30	0.012663	0.052423756	0.479095454	
193	Jun-81	14.73	0.011517	0.044900763	0.482093139	
194	Jul-81	14.95	0.011678	0.045961121	0.481670554	
195	Aug-81	15.51	0.012088	0.048651082	0.480598613	
196	Sep-81	14.70	0.011495	0.044756011	0.482150829	
197	Oct-81	13.54	0.010638	0.039129714	0.484393424	
198	Nov-81	10.86	0.008629	0.025908075	0.489665281	
199	Dec-81	10.85	0.008621	0.025858144	0.489685194	
200	Jan-82	12.28	0.009699	0.032952888	0.486856022	
201	Feb-82	13.48	0.010594	0.038837137	0.484510057	
202	Mar-82	12.68	0.009998	0.034921263	0.486071205	
203	Apr-82	12.70	0.010013	0.035019498	0.486032038	
204	May-82	12.09	0.009556	0.032015452	0.487229809	
205	Jun-82	12.47	0.009841	0.033888739	0.486482880	
206	Jul-82	11.35	0.008999	0.028349176	0.488691778	
207	Aug-82	8.68	0.006961	0.014915237	0.494049870	
208	Sep-82	7.92	0.006372	0.011030965	0.495599346	
209	Oct-82	7.71	0.006209	0.009952855	0.496029428	
210	Nov-82	8.07	0.006488	0.011799760	0.495292660	
211	Dec-82	7.94	0.006387	0.011133532	0.495558430	
212	Jan-83	7.86	0.006325	0.010723148	0.495722141	

Appendix 19
Probability S P 500 > T-bill
Using Lognormal Distribution

	A	B	C	D	E	F
213	Feb-83	8.11	0.006519	0.012004591	0.495210950	
214	Mar-83	8.35	0.006705	0.013231992	0.494721324	
215	Apr-83	8.21	0.006597	0.012516339	0.495006806	
216	May-83	8.19	0.006581	0.012414027	0.495047620	
217	Jun-83	8.79	0.007045	0.015475183	0.493826509	
218	Jul-83	9.08	0.007269	0.016948694	0.493238738	
219	Aug-83	9.34	0.007469	0.018266447	0.492713110	
220	Sep-83	9.00	0.007207	0.016542600	0.493400724	
221	Oct-83	8.64	0.006930	0.014711480	0.494131149	
222	Nov-83	8.76	0.007022	0.015322526	0.493887403	
223	Dec-83	9.00	0.007207	0.016542600	0.493400724	
224	Jan-84	8.90	0.007130	0.016034563	0.493603375	
225	Feb-84	9.09	0.007277	0.016999435	0.493218498	
226	Mar-84	9.52	0.007607	0.019176903	0.492349953	
227	Apr-84	9.69	0.007737	0.020035405	0.492007524	
228	May-84	9.83	0.007844	0.020741408	0.491725927	
229	Jun-84	9.87	0.007875	0.020942958	0.491645538	
230	Jul-84	10.12	0.008066	0.022200985	0.491143773	
231	Aug-84	10.47	0.008332	0.023957433	0.490443235	
232	Sep-84	10.37	0.008256	0.023456159	0.490643159	
233	Oct-84	9.74	0.007775	0.020287652	0.491906912	
234	Nov-84	8.61	0.006907	0.014558612	0.494192128	
235	Dec-84	8.06	0.006481	0.011748540	0.495313093	
236	Jan-85	7.76	0.006247	0.010209738	0.495926951	
237	Feb-85	8.27	0.006643	0.012823161	0.494884411	
238	Mar-85	8.52	0.006837	0.014099757	0.494375167	
239	Apr-85	7.95	0.006395	0.011184809	0.495537975	
240	May-85	7.48	0.006029	0.008769654	0.496501439	
241	Jun-85	6.95	0.005615	0.006033478	0.497592991	
242	Jul-85	7.08	0.005717	0.006705869	0.497324750	
243	Aug-85	7.14	0.005764	0.007015928	0.497201056	
244	Sep-85	7.10	0.005732	0.006809241	0.497283511	
245	Oct-85	7.16	0.005779	0.007119242	0.497159841	
246	Nov-85	7.24	0.005842	0.007532306	0.496995055	
247	Dec-85	7.10	0.005732	0.006809241	0.497283511	
248	Jan-86	7.07	0.005709	0.006654175	0.497345372	
249	Feb-86	7.06	0.005701	0.006602477	0.497365996	
250	Mar-86	6.56	0.005309	0.004011393	0.498399681	
251	Apr-86	6.06	0.004915	0.001408122	0.499438238	
252	May-86	6.15	0.004986	0.001877615	0.499250936	
253	Jun-86	6.21	0.005033	0.002190389	0.499126157	
254	Jul-86	5.83	0.004733	0.000206493	0.499917621	
255	Aug-86	5.53	0.004495	-0.001364779	0.500544471	
256	Sep-86	5.21	0.004241	-0.003045734	0.501215078	
257	Oct-86	5.18	0.004217	-0.003203586	0.501278051	
258	Nov-86	5.35	0.004353	-0.002309688	0.500921437	
259	Dec-86	5.53	0.004495	-0.001364779	0.500544471	
260	Jan-87	5.43	0.004416	-0.001889530	0.500753817	
261	Feb-87	5.59	0.004543	-0.001050168	0.500418959	
262	Mar-87	5.59	0.004543	-0.001050168	0.500418959	
263	Apr-87	5.64	0.004583	-0.000788128	0.500314419	
264	May-87	5.66	0.004599	-0.000683347	0.500272617	
265	Jun-87	5.67	0.004606	-0.000630964	0.500251720	

Appendix 19
Probability S P 500 > T-bill
Using Lognormal Distribution

	A	B	C	D	E	F
266	Jul-87	5.69	0.004622	-0.000526212	0.500209929	
267	Aug-87	6.04	0.004899	0.001303736	0.499479882	
268	Sep-87	6.40	0.005183	0.003179677	0.498731487	
269	Oct-87	6.13	0.004970	0.001773317	0.499292545	
270	Nov-87	5.69	0.004622	-0.000526212	0.500209929	
271	Dec-87	5.77	0.004686	-0.000107405	0.500042848	
272	Jan-88	5.81	0.004717	0.000101880	0.499959356	
273	Feb-88	5.66	0.004599	-0.000683347	0.500272617	
274	Mar-88	5.70	0.004630	-0.000473844	0.500189037	
275	Apr-88	5.91	0.004796	0.000624747	0.499750761	
276	May-88	6.26	0.005073	0.002450900	0.499022228	
277	Jun-88	6.46	0.005230	0.003491717	0.498607001	
278	Jul-88	6.73	0.005442	0.004893723	0.498047683	
279	Aug-88	7.06	0.005701	0.006602477	0.497365996	
280	Sep-88	7.24	0.005842	0.007532306	0.496995055	
281	Oct-88	7.35	0.005928	0.008099767	0.496768677	
282	Nov-88	7.76	0.006247	0.010209738	0.495926951	
283	Dec-88	8.07	0.006488	0.011799760	0.495292660	
284	Jan-89	8.27	0.006643	0.012823161	0.494884411	
285	Feb-89	8.53	0.006845	0.014150760	0.494354821	
286	Mar-89	8.82	0.007069	0.015627797	0.493765632	
287	Apr-89	8.65	0.006937	0.014762426	0.494110826	
288	May-89	8.43	0.006767	0.013640522	0.494558358	
289	Jun-89	8.15	0.006550	0.012209347	0.495129269	
290	Jul-89	7.88	0.006341	0.010825772	0.495681202	
291	Aug-89	7.90	0.006356	0.010928378	0.495640270	
292	Sep-89	7.75	0.006240	0.010158371	0.495947443	
293	Oct-89	7.64	0.006154	0.009593018	0.496172976	
294	Nov-89	7.69	0.006193	0.009850068	0.496070433	
295	Dec-89	7.63	0.006146	0.009541594	0.496193491	
296	Jan-90	7.64	0.006154	0.009593018	0.496172976	
297	Feb-90	7.74	0.006232	0.010106999	0.495967936	
298	Mar-90	7.90	0.006356	0.010928378	0.495640270	
299	Apr-90	7.77	0.006255	0.010261101	0.495906462	
300	May-90	7.74	0.006232	0.010106999	0.495967936	
301	Jun-90	7.73	0.006224	0.010055623	0.495988432	
302	Jul-90	7.62	0.006138	0.009490164	0.496214007	
303	Aug-90	7.45	0.006006	0.008615137	0.496563081	
304	Sep-90	7.36	0.005936	0.008151326	0.496748109	
305	Oct-90	7.17	0.005787	0.007170892	0.497139236	
306	Nov-90	7.06	0.005701	0.006602477	0.497365996	
307	Dec-90	6.74	0.005450	0.004945581	0.498026995	
308	Jan-91	6.22	0.005041	0.002242501	0.499105367	
309	Feb-91	5.94	0.004820	0.000781510	0.499688221	
310	Mar-91	5.91	0.004796	0.000624747	0.499750761	
311	Apr-91	5.65	0.004591	-0.000735735	0.500293517	
312	May-91	5.46	0.004440	-0.001732052	0.500690993	
313	Jun-91	5.57	0.004527	-0.001155018	0.500460788	
314	Jul-91	5.58	0.004535	-0.001102591	0.500439873	
315	Aug-91	5.33	0.004337	-0.002414778	0.500963362	
316	Sep-91	5.22	0.004249	-0.002993127	0.501194090	
317	Oct-91	4.99	0.004066	-0.004204359	0.501677302	
318	Nov-91	4.56	0.003723	-0.006475871	0.502583536	

Appendix 19
Probability S P 500 > T-bill
Using Lognormal Distribution

	A	B	C	D	E	F
319	Dec-91	4.07	0.003330	-0.009075968	0.503620758	
320	Jan-92	3.80	0.003113	-0.010513855	0.504194368	
321	Feb-92	3.84	0.003145	-0.010300599	0.504109295	
322	Mar-92	4.04	0.003306	-0.009235549	0.503684420	
323	Apr-92	3.75	0.003073	-0.010780541	0.504300754	
324	May-92	3.63	0.002976	-0.011421112	0.504556291	
325	Jun-92	3.66	0.003000	-0.011260900	0.504492379	
326	Jul-92	3.21	0.002636	-0.013668966	0.505452988	
327	Aug-92	3.13	0.002572	-0.014098165	0.505624198	
328	Sep-92	2.91	0.002393	-0.015280183	0.506095706	
329	Oct-92	2.86	0.002353	-0.015549176	0.506203007	
330	Nov-92	3.13	0.002572	-0.014098165	0.505624198	
331	Dec-92	3.22	0.002645	-0.013615339	0.505431596	
332	Jan-93	3.00	0.002466	-0.014796325	0.505902696	
333	Feb-93	2.93	0.002409	-0.015172623	0.506052801	
334	Mar-93	2.95	0.002426	-0.015065083	0.506009903	
335	Apr-93	2.87	0.002361	-0.015495367	0.506181542	
336	May-93	2.96	0.002434	-0.015011321	0.505988458	
337	Jun-93	3.07	0.002523	-0.014420284	0.505752692	
338	Jul-93	3.04	0.002499	-0.014581413	0.505816967	
339	Aug-93	3.02	0.002482	-0.014688859	0.505859827	
340	Sep-93	2.95	0.002426	-0.015065083	0.506009903	
341	Oct-93	3.02	0.002482	-0.014688859	0.505859827	
342	Nov-93	3.10	0.002547	-0.014259201	0.505688436	
343	Dec-93	3.06	0.002515	-0.014473988	0.505774115	
344	Jan-94	2.98	0.002450	-0.014903813	0.505945573	
345	Feb-94	3.25	0.002669	-0.013454491	0.505367432	
346	Mar-94	3.50	0.002871	-0.012115901	0.504833454	
347	Apr-94	3.68	0.003016	-0.011154117	0.504449782	
348	May-94	4.14	0.003386	-0.008703791	0.503472286	
349	Jun-94	4.14	0.003386	-0.008703791	0.503472286	
350	Jul-94	4.33	0.003539	-0.007694857	0.503069791	
351	Aug-94	4.48	0.003659	-0.006899627	0.502752547	
352	Sep-94	4.62	0.003771	-0.006158442	0.502456862	
353	Oct-94	4.95	0.004034	-0.004415279	0.501761446	
354	Nov-94	5.29	0.004305	-0.002625017	0.501047235	
355	Dec-94	5.60	0.004551	-0.000997750	0.500398047	
356	Jan-95	5.71	0.004638	-0.000421481	0.500168147	
357	Feb-95	5.77	0.004686	-0.000107405	0.500042848	
358	Mar-95	5.73	0.004654	-0.000316769	0.500126373	
359	Apr-95	5.65	0.004591	-0.000735735	0.500293517	
360	May-95	5.67	0.004606	-0.000630964	0.500251720	
361	Jun-95	5.47	0.004448	-0.001679570	0.500670055	
362	Jul-95	5.42	0.004408	-0.001942032	0.500774763	
363	Aug-95	5.40	0.004392	-0.002047052	0.500816660	
364	Sep-95	5.28	0.004297	-0.002677589	0.501068209	
365	Oct-95	5.28	0.004297	-0.002677589	0.501068209	
366	Nov-95	5.36	0.004361	-0.002257151	0.500900478	
367	Dec-95	5.14	0.004186	-0.003414125	0.501362044	
368	Jan-96	5.00	0.004074	-0.004151642	0.501656271	
369	Feb-96	4.83	0.003939	-0.005048521	0.502014072	
370	Mar-96	4.96	0.004042	-0.004362541	0.501740407	
371	Apr-96	4.95	0.004034	-0.004415279	0.501761446	

Appendix 19
Probability S P 500 > T-bill
Using Lognormal Distribution

	A	B	C	D	E	F
372	May-96	5.02	0.004090	-0.004046222	0.501614214	
373	Jun-96	5.09	0.004146	-0.003677411	0.501467080	
374	Jul-96	5.15	0.004194	-0.003361482	0.501341043	
375	Aug-96	5.05	0.004114	-0.003888130	0.501551145	
376	Sep-96	5.09	0.004146	-0.003677411	0.501467080	
377	Oct-96	4.99	0.004066	-0.004204359	0.501677302	
378	Nov-96	5.03	0.004098	-0.003993520	0.501593189	
379	Dec-96	4.91	0.004002	-0.004626279	0.501845623	
380	Jan-97	5.03	0.004098	-0.003993520	0.501593189	
381	Feb-97	5.01	0.004082	-0.004098929	0.501635241	
382	Mar-97	5.14	0.004186	-0.003414125	0.501362044	
383	Apr-97	5.16	0.004202	-0.003308845	0.501320044	
384	May-97	5.05	0.004114	-0.003888130	0.501551145	
385	Jun-97	4.93	0.004018	-0.004520769	0.501803531	
386	Jul-97	5.05	0.004114	-0.003888130	0.501551145	
387	Aug-97	5.14	0.004186	-0.003414125	0.501362044	
388	Sep-97	4.95	0.004034	-0.004415279	0.501761446	
389	Oct-97	4.97	0.004050	-0.004309809	0.501719370	
390	Nov-97	5.14	0.004186	-0.003414125	0.501362044	
391	Dec-97	5.16	0.004202	-0.003308845	0.501320044	
392	Jan-98	5.04	0.004106	-0.003940822	0.501572166	
393	Feb-98	5.09	0.004146	-0.003677411	0.501467080	
394	Mar-98	5.03	0.004098	-0.003993520	0.501593189	
395	Apr-98	4.95	0.004034	-0.004415279	0.501761446	
396	May-98	5.00	0.004074	-0.004151642	0.501656271	
397	Jun-98	4.98	0.004058	-0.004257081	0.501698335	
398	Jul-98	4.96	0.004042	-0.004362541	0.501740407	
399	Aug-98	4.90	0.003994	-0.004679042	0.501866672	
400	Sep-98	4.61	0.003763	-0.006211350	0.502477969	
401	Oct-98	3.96	0.003242	-0.009661323	0.503854272	
402	Nov-98	4.41	0.003603	-0.007270592	0.502900538	
403	Dec-98	4.39	0.003587	-0.007376628	0.502942839	

Appendix 20
Relative Frequency-based Probability (S P 500)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1												Bin	Frequency	Cumulative %
2												0.0023	163	42.56%
3	Date	3 Month		Pr. S & P > t-bill								0.0025	0	42.56%
4	(Month-Year)	T-Bill Rate	d									0.0027	1	42.82%
5	Jan-66	4.59	0.003746815	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.0029	0	42.82%
6	Feb-66	4.65	0.003794787	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.0031	1	43.08%
7	Mar-66	4.59	0.003746815	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.0033	1	43.34%
8	Apr-66	4.62	0.003770804	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.0035	0	43.34%
9	May-66	4.64	0.003786784	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.0037	1	43.60%
10	Jun-66	4.50	0.003674809	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.0039	2	44.13%
11	Jul-66	4.80	0.003914608	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.0041	5	45.43%
12	Aug-66	4.96	0.004042243	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.0043	2	45.95%
13	Sep-66	5.37	0.004368496	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.0045	1	46.21%
14	Oct-66	5.35	0.004352608	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.0047	0	46.21%
15	Nov-66	5.32	0.004328771	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.0049	0	46.21%
16	Dec-66	4.96	0.004042243	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.0051	1	46.48%
17	Jan-67	4.72	0.003850723	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.0053	0	46.48%
18	Feb-67	4.56	0.003722819	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.0055	0	46.48%
19	Mar-67	4.26	0.003482516	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.0057	0	46.48%
20	Apr-67	3.84	0.003145024	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.0059	0	46.48%
21	May-67	3.60	0.002951609	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.0061	1	46.74%
22	Jun-67	3.54	0.002903192	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.0063	0	46.74%
23	Jul-67	4.21	0.003442404	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.0065	1	47.00%
24	Aug-67	4.27	0.003490536	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.0067	1	47.26%
25	Sep-67	4.42	0.003610757	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.0069	0	47.26%
26	Oct-67	4.56	0.003722819	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.0071	1	47.52%
27	Nov-67	4.73	0.003858711	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.0073	0	47.52%
28	Dec-67	4.97	0.004050214	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.0075	0	47.52%
29	Jan-68	5.00	0.004074124	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.0077	1	47.78%
30	Feb-68	4.90	0.004058185	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.0079	0	47.78%
31	Mar-68	5.17	0.004209484	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.0081	1	48.04%
32	Apr-68	5.38	0.004376439	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.0083	0	48.04%
33	May-68	5.66	0.004598558	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.0085	1	48.30%
34	Jun-68	5.52	0.004487566	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.0087	1	48.56%
35	Jul-68	5.31	0.004320824	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.0089	1	48.83%
36	Aug-68	5.09	0.004145815	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.0091	2	49.35%
37	Sep-68	5.19	0.004225406	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.0093	1	49.61%
38	Oct-68	5.35	0.004352608	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.0095	1	49.87%
39	Nov-68	5.45	0.004432019	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.0097	0	49.87%
40	Dec-68	5.96	0.004835945	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.0099	3	50.65%
41	Jan-69	6.14	0.004978082	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.0101	1	50.91%
42	Feb-69	6.12	0.004962300	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.0103	1	51.17%
43	Mar-69	6.02	0.004883349	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.0105	0	51.17%
44	Apr-69	6.11	0.004954408	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.0107	0	51.17%
45	May-69	6.04	0.004899145	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.0109	0	51.17%

Appendix 20
Relative Frequency-based Probability (S P 500)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
46	Jun-69	6.44	0.005214487	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.0111	0	51.17%
47	Jul-69	7.00	0.005654145	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.0113	1	51.44%
48	Aug-69	6.98	0.005638480	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.0115	4	52.48%
49	Sep-69	7.09	0.005724608	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.0117	0	52.48%
50	Oct-69	7.00	0.005654145	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.0119	1	52.74%
51	Nov-69	7.24	0.005841925	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.0121	1	53.00%
52	Dec-69	7.82	0.006294141	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.0123	0	53.00%
53	Jan-70	7.87	0.006333020	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.0125	0	53.00%
54	Feb-70	7.13	0.005755907	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.0127	0	53.00%
55	Mar-70	6.63	0.005363894	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	More	180	100.00%
56	Apr-70	6.51	0.005269560	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
57	May-70	6.84	0.005528744	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
58	Jun-70	6.68	0.005403171	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
59	Jul-70	6.45	0.005222356	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
60	Aug-70	6.41	0.005190874	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
61	Sep-70	6.12	0.004962300	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
62	Oct-70	5.91	0.004796424	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
63	Nov-70	5.28	0.004296979	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470			
64	Dec-70	4.87	0.003970470	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692			
65	Jan-71	4.44	0.003626774	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
66	Feb-71	3.70	0.003032249	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
67	Mar-71	3.38	0.002773951	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
68	Apr-71	3.88	0.003161124	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
69	May-71	4.14	0.003386217	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
70	Jun-71	4.75	0.003874685	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747			
71	Jul-71	5.40	0.004392322	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
72	Aug-71	4.94	0.004026298	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692			
73	Sep-71	4.69	0.003826755	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747			
74	Oct-71	4.46	0.003642789	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
75	Nov-71	4.22	0.003450428	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
76	Dec-71	4.01	0.003281778	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
77	Jan-72	3.38	0.002773951	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
78	Feb-72	3.20	0.002628337	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
79	Mar-72	3.73	0.003056427	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
80	Apr-72	3.71	0.003040309	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
81	May-72	3.69	0.003024188	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
82	Jun-72	3.91	0.003201360	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
83	Jul-72	3.98	0.003257660	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
84	Aug-72	4.02	0.003289816	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
85	Sep-72	4.66	0.003802780	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747			
86	Oct-72	4.74	0.003866698	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747			
87	Nov-72	4.78	0.003898641	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747			
88	Dec-72	5.07	0.004129889	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470			
89	Jan-73	5.41	0.004400263	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			

Appendix 20
Relative Frequency-based Probability (S P 500)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
90	Feb-73	5.60	0.004551007	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859
91	Mar-73	6.09	0.004938622	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248
92	Apr-73	6.26	0.005072717	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248
93	May-73	6.36	0.005151505	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248
94	Jun-73	7.19	0.005902836	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248
95	Jul-73	8.01	0.006441795	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026
96	Aug-73	8.67	0.006952859	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804
97	Sep-73	8.29	0.006569599	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415
98	Oct-73	7.22	0.005826292	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248
99	Nov-73	7.83	0.006301918	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026
100	Dec-73	7.45	0.006005917	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637
101	Jan-74	7.77	0.006255245	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637
102	Feb-74	7.12	0.005748083	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248
103	Mar-74	7.98	0.006402962	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026
104	Apr-74	8.33	0.006688940	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415
105	May-74	8.23	0.006612467	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415
106	Jun-74	7.90	0.006395340	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026
107	Jul-74	7.55	0.006063905	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637
108	Aug-74	8.98	0.007176517	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804
109	Sep-74	8.06	0.006480612	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026
110	Oct-74	7.46	0.006013719	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637
111	Nov-74	7.47	0.006021520	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637
112	Dec-74	7.15	0.005771553	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248
113	Jan-75	6.28	0.005072717	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248
114	Feb-75	5.50	0.004471869	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859
115	Mar-75	5.49	0.004463764	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859
116	Apr-75	5.61	0.004558934	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859
117	May-75	5.23	0.004257223	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
118	Jun-75	5.34	0.004344663	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859
119	Jul-75	6.13	0.004970192	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248
120	Aug-75	6.44	0.005214487	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248
121	Sep-75	6.42	0.005198745	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248
122	Oct-75	5.98	0.004835945	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859
123	Nov-75	5.48	0.004455829	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859
124	Dec-75	5.44	0.004424081	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859
125	Jan-76	4.87	0.003970470	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
126	Feb-76	4.88	0.003978448	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
127	Mar-76	5.00	0.004074124	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
128	Apr-76	4.86	0.003962482	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
129	May-76	5.20	0.004233362	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
130	Jun-76	5.41	0.004400262	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859
131	Jul-76	5.23	0.004257223	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
132	Aug-76	5.14	0.004185619	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
133	Sep-76	5.08	0.004137852	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
134	Oct-76	4.92	0.004010351	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692

Appendix 20
Relative Frequency-based Probability (S P 500)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
135	Nov-76	4.75	0.003874685	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747			
136	Dec-76	4.35	0.003554674	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
137	Jan-77	4.62	0.003770804	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747			
138	Feb-77	4.67	0.003810772	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747			
139	Mar-77	4.60	0.003754812	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747			
140	Apr-77	4.54	0.003706819	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747			
141	May-77	4.96	0.004042243	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692			
142	Jun-77	5.02	0.004090060	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692			
143	Jul-77	5.19	0.004225406	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470			
144	Aug-77	5.49	0.004463764	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
145	Sep-77	5.81	0.004717329	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
146	Oct-77	6.16	0.004993862	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
147	Nov-77	6.10	0.004946515	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
148	Dec-77	6.07	0.004922833	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
149	Jan-78	6.44	0.005214487	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
150	Feb-78	6.45	0.005222356	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
151	Mar-78	6.29	0.005096361	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
152	Apr-78	6.29	0.005096361	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
153	May-78	6.41	0.005190874	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
154	Jun-78	6.73	0.005442431	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
155	Jul-78	7.01	0.005661977	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
156	Aug-78	7.08	0.005716782	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
157	Sep-78	7.85	0.006317470	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026			
158	Oct-78	7.99	0.006426264	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026			
159	Nov-78	8.64	0.006929690	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804			
160	Dec-78	9.08	0.007268905	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804			
161	Jan-79	9.35	0.007476440	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804			
162	Feb-79	9.32	0.007453404	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804			
163	Mar-79	9.48	0.007576197	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193			
164	Apr-79	9.46	0.007560857	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193			
165	May-79	9.61	0.007675845	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193			
166	Jun-79	9.06	0.007253514	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804			
167	Jul-79	9.24	0.007391946	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804			
168	Aug-79	9.52	0.007606869	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193			
169	Sep-79	10.26	0.008172466	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582			
170	Oct-79	11.70	0.009263184	0.503916	0.503916	0.503916	0.503916	0.503916	0.503916	0.503916	0.503916			
171	Nov-79	11.79	0.009330925	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305			
172	Dec-79	12.04	0.009518832	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305			
173	Jan-80	12.00	0.009488793	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305			
174	Feb-80	12.86	0.010132483	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251			
175	Mar-80	15.20	0.011861426	0.472585	0.472585	0.472585	0.472585	0.472585	0.472585	0.472585	0.472585			
176	Apr-80	13.20	0.010385726	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251			
177	May-80	8.58	0.006883336	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415			
178	Jun-80	7.07	0.005708954	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
179	Jul-80	8.06	0.006480612	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026			

Appendix 20
Relative Frequency-based Probability (S P 500)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
180	Aug-80	8.13	0.007307373	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804
181	Sep-80	10.27	0.008180085	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582
182	Oct-80	11.62	0.009202927	0.503916	0.503916	0.503916	0.503916	0.503916	0.503916	0.503916	0.503916	0.503916	0.503916	0.503916
183	Nov-80	13.73	0.010779100	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251
184	Dec-80	15.49	0.012073449	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974
185	Jan-81	15.02	0.011728578	0.472585	0.472585	0.472585	0.472585	0.472585	0.472585	0.472585	0.472585	0.472585	0.472585	0.472585
186	Feb-81	14.79	0.011560831	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196
187	Mar-81	13.36	0.010504658	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251
188	Apr-81	13.69	0.010749470	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251
189	May-81	16.30	0.012663079	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974
190	Jun-81	14.73	0.011516759	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196
191	Jul-81	14.95	0.011678253	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196
192	Aug-81	15.51	0.012088054	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974	0.469974
193	Sep-81	14.70	0.011494715	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196	0.475196
194	Oct-81	13.54	0.010638273	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251
195	Nov-81	10.86	0.008628509	0.514360	0.514360	0.514360	0.514360	0.514360	0.514360	0.514360	0.514360	0.514360	0.514360	0.514360
196	Dec-81	10.85	0.008620927	0.514360	0.514360	0.514360	0.514360	0.514360	0.514360	0.514360	0.514360	0.514360	0.514360	0.514360
197	Jan-82	12.28	0.009698963	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305
198	Feb-82	13.48	0.010593756	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251	0.488251
199	Mar-82	12.66	0.009998130	0.490862	0.490862	0.490862	0.490862	0.490862	0.490862	0.490862	0.490862	0.490862	0.490862	0.490862
200	Apr-82	12.70	0.010013068	0.490862	0.490862	0.490862	0.490862	0.490862	0.490862	0.490862	0.490862	0.490862	0.490862	0.490862
201	May-82	12.09	0.009556368	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305	0.501305
202	Jun-82	12.47	0.009841136	0.493473	0.493473	0.493473	0.493473	0.493473	0.493473	0.493473	0.493473	0.493473	0.493473	0.493473
203	Jul-82	11.35	0.008992688	0.506527	0.506527	0.506527	0.506527	0.506527	0.506527	0.506527	0.506527	0.506527	0.506527	0.506527
204	Aug-82	8.68	0.006960580	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804
205	Sep-82	7.92	0.006371883	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026
206	Oct-82	7.71	0.006208547	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637
207	Nov-82	8.07	0.006498374	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026
208	Dec-82	7.94	0.006367424	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026
209	Jan-83	7.68	0.006325246	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026
210	Feb-83	8.11	0.006518413	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415
211	Mar-83	8.35	0.006705427	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415
212	Apr-83	8.21	0.006596965	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415
213	May-83	8.19	0.006581459	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415
214	Jun-83	8.78	0.007045473	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804
215	Jul-83	9.08	0.007268805	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804
216	Aug-83	9.34	0.007468762	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804
217	Sep-83	9.00	0.007207323	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804
218	Oct-83	8.64	0.006929690	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804
219	Nov-83	8.76	0.007022328	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804
220	Dec-83	9.00	0.007207323	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804
221	Jan-84	8.90	0.007130287	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804
222	Feb-84	9.09	0.007276600	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804
223	Mar-84	9.52	0.007606869	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193
224	Apr-84	9.69	0.007737113	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193

Appendix 20
Relative Frequency-based Probability (S P 500)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
225	May-84	9.83	0.007844234	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193			
226	Jun-84	9.87	0.007874816	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193			
227	Jul-84	10.12	0.008065729	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582			
228	Aug-84	10.47	0.008332339	0.516971	0.516971	0.516971	0.516971	0.516971	0.516971	0.516971	0.516971			
229	Sep-84	10.37	0.008256244	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582	0.519582			
230	Oct-84	9.74	0.007775385	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193	0.522193			
231	Nov-84	8.61	0.006906516	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804			
232	Dec-84	8.06	0.006480612	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026			
233	Jan-85	7.76	0.006247463	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
234	Feb-85	8.27	0.006643464	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415			
235	Mar-85	8.52	0.006836958	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415			
236	Apr-85	7.95	0.006395193	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026			
237	May-85	7.48	0.006029320	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
238	Jun-85	6.95	0.005614976	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
239	Jul-85	7.08	0.005716782	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
240	Aug-85	7.14	0.005763730	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
241	Sep-85	7.10	0.005732434	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
242	Oct-85	7.16	0.005779375	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
243	Nov-85	7.24	0.005841925	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
244	Dec-85	7.10	0.005732434	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
245	Jan-86	7.07	0.005708954	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
246	Feb-86	7.06	0.005701126	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
247	Mar-86	6.56	0.005308877	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
248	Apr-86	6.06	0.004914938	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
249	May-86	6.15	0.004985972	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
250	Jun-86	6.21	0.005033298	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
251	Jul-86	5.83	0.004733153	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
252	Aug-86	5.53	0.004495498	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
253	Sep-86	5.21	0.004241316	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470			
254	Oct-86	5.18	0.004217450	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470			
255	Nov-86	5.35	0.004352608	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
256	Dec-86	5.53	0.004495498	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
257	Jan-87	5.43	0.004416143	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
258	Feb-87	5.59	0.004543079	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
259	Mar-87	5.59	0.004543079	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
260	Apr-87	5.64	0.004582710	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
261	May-87	5.66	0.004598558	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
262	Jun-87	5.67	0.004606481	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
263	Jul-87	5.69	0.004622325	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
264	Aug-87	6.04	0.004898145	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
265	Sep-87	6.40	0.005183001	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
266	Oct-87	6.13	0.004970192	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
267	Nov-87	5.69	0.004622325	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
268	Dec-87	5.77	0.004685672	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
269	Jan-88	5.81	0.004717329	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			

Appendix 20
Relative Frequency-based Probability (S P 500)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
270	Feb-88	5.66	0.004598558	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
271	Mar-88	5.70	0.004630246	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
272	Apr-88	5.91	0.004796424	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
273	May-88	6.26	0.005072717	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
274	Jun-88	6.46	0.005230225	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
275	Jul-88	6.73	0.005442431	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
276	Aug-88	7.06	0.005701126	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
277	Sep-88	7.24	0.005841925	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
278	Oct-88	7.35	0.005927862	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
279	Nov-88	7.76	0.006247463	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
280	Dec-88	8.07	0.006488374	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026			
281	Jan-89	8.27	0.006643464	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415			
282	Feb-89	8.53	0.006844689	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415			
283	Mar-89	8.82	0.007068612	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804			
284	Apr-89	8.65	0.006837413	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804	0.524804			
285	May-89	8.43	0.006767347	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415			
286	Jun-89	8.15	0.006550441	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415	0.527415			
287	Jul-89	7.88	0.006340794	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026			
288	Aug-89	7.90	0.006356340	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026			
289	Sep-89	7.75	0.006239881	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
290	Oct-89	7.64	0.006154037	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
291	Nov-89	7.69	0.006192976	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
292	Dec-89	7.63	0.006146247	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
293	Jan-90	7.64	0.006154037	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
294	Feb-90	7.74	0.006231899	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
295	Mar-90	7.90	0.006356340	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026	0.530026			
296	Apr-90	7.77	0.006255245	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
297	May-90	7.74	0.006231899	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
298	Jun-90	7.73	0.006224118	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
299	Jul-90	7.62	0.006138457	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
300	Aug-90	7.45	0.006005917	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
301	Sep-90	7.36	0.005935671	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637	0.532637			
302	Oct-90	7.17	0.005787196	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
303	Nov-90	7.06	0.005701126	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
304	Dec-90	6.74	0.005450281	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
305	Jan-91	6.22	0.005041183	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248	0.535248			
306	Feb-91	5.94	0.004820139	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
307	Mar-91	5.91	0.004796424	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
308	Apr-91	5.65	0.004590635	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
309	May-91	5.46	0.004439957	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
310	Jun-91	5.57	0.004527222	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
311	Jul-91	5.58	0.004535151	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
312	Aug-91	5.33	0.004336718	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
313	Sep-91	5.22	0.004249270	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470			
314	Oct-91	4.99	0.004086155	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692			

Appendix 20
Relative Frequency-based Probability (S P 500)

	A	B	C	D	E	F	G	H	i	J	K	L	M	N
315	Nov-91	4.56	0.003722819	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747			
316	Dec-91	4.07	0.003329996	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
317	Jan-92	3.80	0.003112817	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
318	Feb-92	3.84	0.003145024	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
319	Mar-92	4.04	0.003305890	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
320	Apr-92	3.75	0.003072542	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
321	May-92	3.63	0.002975809	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
322	Jun-92	3.66	0.003000002	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
323	Jul-92	3.21	0.002636433	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
324	Aug-92	3.13	0.002571646	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
325	Sep-92	2.91	0.002393245	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
326	Oct-92	2.86	0.002352651	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
327	Nov-92	3.13	0.002571646	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
328	Dec-92	3.22	0.002644528	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
329	Jan-93	3.00	0.002466270	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
330	Feb-93	2.93	0.002409478	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
331	Mar-93	2.95	0.002425708	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
332	Apr-93	2.87	0.002360771	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
333	May-93	2.96	0.002433822	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
334	Jun-93	3.07	0.002523026	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
335	Jul-93	3.04	0.002498706	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
336	Aug-93	3.02	0.002482489	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
337	Sep-93	2.95	0.002425708	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
338	Oct-93	3.02	0.002482489	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
339	Nov-93	3.10	0.002547339	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
340	Dec-93	3.06	0.002514920	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
341	Jan-94	2.98	0.002450047	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413	0.574413			
342	Feb-94	3.25	0.002668809	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
343	Mar-94	3.50	0.002870899	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802	0.571802			
344	Apr-94	3.68	0.003016127	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191	0.569191			
345	May-94	4.14	0.003386217	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
346	Jun-94	4.14	0.003386217	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580			
347	Jul-94	4.33	0.003538643	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
348	Aug-94	4.48	0.003658800	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969			
349	Sep-94	4.62	0.003770604	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747			
350	Oct-94	4.95	0.004034271	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692			
351	Nov-94	5.29	0.004304928	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
352	Dec-94	5.60	0.004551007	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
353	Jan-95	5.71	0.004638166	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
354	Feb-95	5.77	0.004685672	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
355	Mar-95	5.73	0.004654004	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
356	Apr-95	5.65	0.004590635	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
357	May-95	5.67	0.004608481	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
358	Jun-95	5.47	0.004447893	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			
359	Jul-95	5.42	0.004408203	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859			

Appendix 20
Relative Frequency-based Probability (S P 500)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
360	Aug-95	5.40	0.0043892322	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859
361	Sep-95	5.28	0.004298879	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
362	Oct-95	5.28	0.004298879	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
363	Nov-95	5.36	0.004360552	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859	0.537859
364	Dec-95	5.14	0.004185619	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
365	Jan-96	5.00	0.004074124	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
366	Feb-96	4.83	0.003838553	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
367	Mar-96	4.96	0.004042243	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
368	Apr-96	4.95	0.004034271	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
369	May-96	5.02	0.004080060	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
370	Jun-96	5.09	0.004145815	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
371	Jul-96	5.15	0.004193578	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
372	Aug-96	5.05	0.004113959	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
373	Sep-96	5.08	0.004145815	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
374	Oct-96	4.99	0.004086155	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
375	Nov-96	5.03	0.004088027	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
376	Dec-96	4.91	0.004002376	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
377	Jan-97	5.03	0.004088027	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
378	Feb-97	5.01	0.004082092	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
379	Mar-97	5.14	0.004185619	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
380	Apr-97	5.16	0.004201536	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
381	May-97	5.05	0.004113959	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
382	Jun-97	4.93	0.004018325	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
383	Jul-97	5.05	0.004113959	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
384	Aug-97	5.14	0.004185619	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
385	Sep-97	4.95	0.004034271	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
386	Oct-97	4.97	0.004050214	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
387	Nov-97	5.14	0.004185619	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
388	Dec-97	5.16	0.004201536	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
389	Jan-98	5.04	0.004105894	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
390	Feb-98	5.09	0.004145815	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470	0.540470
391	Mar-98	5.03	0.004088027	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
392	Apr-98	4.95	0.004034271	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
393	May-98	5.00	0.004074124	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
394	Jun-98	4.98	0.004058185	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
395	Jul-98	4.96	0.004042243	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
396	Aug-98	4.90	0.003994401	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692	0.545692
397	Sep-98	4.61	0.003782808	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747	0.558747
398	Oct-98	3.96	0.003241578	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580	0.566580
399	Nov-98	4.41	0.003802747	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969
400	Dec-98	4.39	0.003586725	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969	0.563969
401			0.002352851											
402			0.012663079											

Appendix 22
Element Prob of 1 and 0

	W	X	Y	Z	AA	AB	AC
1							
2							
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7	L5/L4	L4/L3	L3/L5	L5/L3	L4/L5	L5/L4	φ
8							
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10	0.85	1.07	0.53	1.90	0.57	1.77	3.29
11	0.87	1.15	0.78	0.11	10.15	0.10	3.47
12	0.81	1.24	1.46	0.02	181.96	0.01	3.15
13	0.75	1.33	0.35	0.01	111.23	0.01	2.93
14	0.70	1.43	0.43	0.02	64.33	0.02	2.74
15	0.65	1.55	1.11	0.00	1720.01	0.00	2.55
16	0.70	1.43	5.07	0.04	855.35	0.00	2.78
17	0.66	1.54	301.39	0.00	484.70	0.00	2.65
18	0.66	1.66	151.79	0.01	251.24	0.00	2.44
19	0.66	1.53	107.31	0.01	164.44	0.01	2.65
20	0.71	1.42	2088.84	0.00	3827.64	0.00	2.89
21	0.66	1.53	1353.91	0.00	2088.18	0.00	2.89
22	0.81	1.64	079.37	0.00	1111.64	0.00	2.52
23	0.66	1.52	1180.87	0.00	1781.52	0.00	2.74
24	0.62	1.62	991.32	0.00	1609.41	0.00	2.56
25	0.56	1.73	804.24	0.00	1391.52	0.00	2.39
26	0.62	1.62	645.49	0.00	1043.83	0.00	2.60
27	0.58	1.72	2124.82	0.00	3652.04	0.00	2.43
28	0.55	1.83	1363.50	0.00	2489.10	0.00	2.27
29	0.51	1.95	1087.63	0.00	2117.40	0.00	2.14
30	0.55	1.62	4991.84	0.00	9098.82	0.00	2.31
31	0.51	1.25	2911.07	0.00	5672.42	0.00	2.17
32	0.44	2.08	10308.02	0.00	21475.21	0.00	2.06
33	0.52	1.83	5247.25	0.00	10138.10	0.00	2.21
34	0.56	1.79	264370.62	0.00	473417.05	0.00	2.36
35	0.60	1.66	1954878.04	0.00	325853.71	0.00	2.50
36	0.56	1.79	151785.66	0.00	271023.81	0.00	2.42
37	0.52	1.91	76771.47	0.00	146581.32	0.00	2.27
38	0.56	1.77	278428.60	0.00	488333.40	0.00	2.45
39	0.53	1.90	248272.22	0.00	473485.65	0.00	2.31
40	0.57	1.78	314090.21	0.00	533691.46	0.00	2.49
41	0.61	1.64	284183.64	0.00	438601.46	0.00	2.71
42	0.66	1.52	143536.79	0.00	218070.28	0.00	2.86
43	0.71	1.41	118589.48	0.00	164383.81	0.00	3.26
44	0.71	1.30	154284.95	0.00	201046.57	0.00	3.60
45	0.71	1.40	213155.60	0.00	298916.07	0.00	3.32
46	0.68	1.51	3534578.06	0.00	5333151.34	0.00	3.04
47	0.62	1.62	7084403.21	0.00	11418213.83	0.00	2.87
48	0.62	1.74	4413107.32	0.00	7478738.45	0.00	2.64
49	0.62	1.61	31503469.52	0.00	50841922.66	0.00	2.82
50	0.64	1.73	18096524.57	0.00	27818049.74	0.00	2.73
51	0.63	1.60	102504320.70	0.00	18948710.31	0.00	2.97
52	0.58	1.72	68890136.22	0.00	114382689.29	0.00	2.61
53	0.54	1.84	38718648.20	0.00	87743287.24	0.00	2.81
54	0.56	1.70	70444893.04	0.00	118731020.63	0.00	2.82
55	0.54	1.85	41577240.03	0.00	76868175.13	0.00	2.66
56	0.61	1.64	68937345.77	0.00	115058168.81	0.00	2.85
57	0.54	1.85	42862072.04	0.00	79083044.39	0.00	2.71
58	0.61	1.64	23407431.20	0.00	49891469.06	0.00	2.54
59	0.55	1.81	28706872.89	0.00	51897085.66	0.00	2.74
60	0.49	2.05	21385331.05	0.00	433838738.46	0.00	2.62
61	0.57	1.77	12411824.98	0.00	21949687.85	0.00	2.78
62	0.50	2.00	18458145.93	0.00	36914277.83	0.00	2.69
63	0.44	2.28	18085952.00	0.00	365394386.07	0.00	2.53

For Larsen & Wozniak eliminate prob > 05 & prob < 05

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	S & P 500																				
2	Date (Month-Year)	S & P 500 Returns	3 Month Y-Adj Rate	Constant Pz	Rolling Constant Prob	Lognormal Prob	Relative Freq	DJM	L1/L2	L2/L1	L1/L3	L3/L1	L1/L4	L4/L1	L1/L5	L5/L1	L2/L3	L3/L2	L2/L4	L4/L2	L2/L5
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Appendix 24
 Reassign Prob = 90 for Prob > 90 and Reassign Prob = 10 for Prob < 10

1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
2	S & P 500														
3	If Larsen-Wozniak gives prob > 9 reassign prob = 9														
4	If Larsen-Wozniak gives prob < 1 reassign prob = 1														
5															
6															
7	Date	S & P 500	3 Month	Constant Pr.	Rolling	Lognormal	Relative Freq.	DRM	L1/L2	L2/L1	L1/L3	L3/L1	L1/L4	L4/L1	L1/L5
8	(Month-Year)	Return	T-Bill Rate	Pr stock > t-bill	Constant Prob.	Pr stock > t-bill	Pr stock > t-bill	Technique							
9															
10	Jan-87	0.131767	0.004416	0.591146	0.544025	0.500754	0.537859	0.900000	1.09	0.92	1.18	0.85	1.10	0.91	0.66
11	Feb-87	0.036924	0.004543	0.591146	0.544741	0.500419	0.537859	0.100000	1.18	0.85	1.39	0.72	1.21	0.83	3.88
12	Mar-87	0.026390	0.004543	0.591146	0.545455	0.500419	0.537859	0.100000	1.28	0.78	1.65	0.61	1.33	0.75	22.95
13	Apr-87	-0.011450	0.004583	0.591146	0.546166	0.500314	0.537859	0.100000	1.15	0.87	1.35	0.74	1.17	0.85	10.43
14	May-87	0.006034	0.004599	0.591146	0.545313	0.500273	0.537859	0.100000	1.25	0.80	1.59	0.63	1.29	0.77	61.64
15	Jun-87	0.047915	0.004606	0.591146	0.546022	0.500252	0.537859	0.880000	1.35	0.74	1.88	0.53	1.42	0.70	41.41
16	Jul-87	0.048224	0.004622	0.591146	0.546729	0.500210	0.537859	0.900000	1.46	0.68	2.22	0.45	1.56	0.64	27.20
17	Aug-87	0.034959	0.004899	0.591146	0.547434	0.499480	0.537859	0.100000	1.58	0.63	2.63	0.38	1.71	0.58	160.78
18	Sep-87	-0.024166	0.005183	0.591146	0.548137	0.498731	0.535248	0.100000	1.43	0.70	2.15	0.47	1.51	0.66	73.04
19	Oct-87	-0.217630	0.004970	0.591146	0.547287	0.499293	0.535248	0.100000	1.29	0.78	1.75	0.57	1.33	0.75	33.18
20	Nov-87	-0.085349	0.004622	0.591146	0.546440	0.500210	0.537859	0.900000	1.16	0.86	1.43	0.70	1.17	0.85	135.66
21	Dec-87	0.072861	0.004686	0.591146	0.545595	0.500043	0.537859	0.900000	1.26	0.79	1.70	0.59	1.29	0.78	89.10
22	Jan-88	0.040432	0.004717	0.591146	0.546296	0.499959	0.537859	0.900000	1.36	0.73	2.00	0.50	1.42	0.71	58.53
23	Feb-88	0.041817	0.004599	0.591146	0.546995	0.500273	0.537859	0.900000	1.47	0.68	2.37	0.42	1.56	0.64	38.44
24	Mar-88	-0.033343	0.004630	0.591146	0.547692	0.500189	0.537859	0.900000	1.33	0.75	1.94	0.52	1.38	0.73	157.17
25	Apr-88	0.009425	0.004796	0.591146	0.546851	0.499751	0.537859	0.900000	1.44	0.70	2.29	0.44	1.51	0.66	103.23
26	May-88	0.003176	0.005073	0.591146	0.547546	0.499022	0.535248	0.900000	1.30	0.77	1.87	0.53	1.33	0.75	422.07
27	Jun-88	0.043256	0.005230	0.591146	0.546708	0.498607	0.535248	0.900000	1.41	0.71	2.22	0.45	1.47	0.68	277.23
28	Jul-88	-0.005411	0.005442	0.591146	0.547401	0.498048	0.535248	0.290000	1.27	0.79	1.81	0.55	1.29	0.77	159.64
29	Aug-88	-0.038600	0.005701	0.591146	0.546565	0.497366	0.535248	0.900000	1.15	0.87	1.47	0.68	1.14	0.88	652.70
30	Sep-88	0.039729	0.005842	0.591146	0.545732	0.496995	0.535248	0.900000	1.24	0.81	1.75	0.57	1.26	0.79	428.72
31	Oct-88	0.025964	0.005928	0.591146	0.546423	0.496769	0.532637	0.900000	1.34	0.75	2.08	0.48	1.40	0.72	281.59
32	Nov-88	-0.018891	0.006247	0.591146	0.547112	0.495927	0.532637	0.710000	1.21	0.83	1.69	0.59	1.22	0.82	397.00
33	Dec-88	0.014688	0.006488	0.591146	0.546282	0.495293	0.530026	0.590000	1.31	0.76	2.01	0.50	1.36	0.73	397.77
34	Jan-89	0.071115	0.006643	0.591146	0.546970	0.494884	0.527415	0.610000	1.42	0.71	2.41	0.42	1.53	0.65	385.48
35	Feb-89	-0.028944	0.006845	0.591146	0.547655	0.494355	0.527415	0.370000	1.28	0.78	1.94	0.51	1.32	0.76	250.17
36	Mar-89	0.020806	0.007069	0.591146	0.546828	0.493766	0.524804	0.150000	1.38	0.72	2.33	0.43	1.49	0.67	985.89
37	Apr-89	0.050090	0.006937	0.591146	0.547511	0.494111	0.524804	0.770000	1.49	0.67	2.79	0.36	1.68	0.60	756.89
38	May-89	0.035138	0.006767	0.591146	0.548193	0.494558	0.527415	0.620000	1.61	0.62	3.33	0.30	1.88	0.53	721.67
39	Jun-89	-0.007925	0.006550	0.591146	0.548872	0.495129	0.527415	0.890000	1.46	0.68	2.70	0.37	1.63	0.62	2682.33
40	Jul-89	0.088370	0.006341	0.591146	0.548048	0.495681	0.530026	0.850000	1.58	0.63	3.22	0.31	1.81	0.55	1865.47
41	Aug-89	0.015517	0.006356	0.591146	0.548726	0.495640	0.530026	0.140000	1.70	0.59	3.84	0.26	2.02	0.49	7876.90
42	Sep-89	-0.006544	0.006240	0.591146	0.549401	0.495947	0.532637	0.100000	1.54	0.65	3.11	0.32	1.77	0.57	3578.34
43	Oct-89	-0.025175	0.006154	0.591146	0.548580	0.496173	0.532637	0.900000	1.39	0.72	2.52	0.40	1.55	0.65	14630.17
44	Nov-89	0.016541	0.006193	0.591146	0.547761	0.496070	0.532637	0.900000	1.51	0.66	3.01	0.33	1.72	0.58	9609.52
45	Dec-89	0.021417	0.006146	0.591146	0.548435	0.496153	0.532637	0.900000	1.62	0.62	3.58	0.28	1.91	0.52	6311.81
46	Jan-90	-0.068817	0.006154	0.591146	0.549107	0.496173	0.532637	0.320000	1.47	0.68	2.91	0.34	1.67	0.60	3795.01
47	Feb-90	0.008539	0.006232	0.591146	0.548291	0.495968	0.532637	0.640000	1.59	0.63	3.47	0.29	1.85	0.54	3505.32
48	Mar-90	0.024255	0.006356	0.591146	0.548961	0.495640	0.530026	0.900000	1.71	0.59	4.13	0.24	2.06	0.48	2302.40
49	Apr-90	-0.026887	0.006255	0.591146	0.549630	0.495906	0.532637	0.860000	1.55	0.64	3.35	0.30	1.81	0.55	6723.89
50	May-90	0.091989	0.006232	0.591146	0.548817	0.495968	0.532637	0.550000	1.67	0.60	4.00	0.25	2.00	0.50	7226.91
51	Jun-90	-0.008886	0.006224	0.591146	0.549483	0.495988	0.532637	0.600000	1.52	0.66	3.24	0.31	1.75	0.57	7386.88

Appendix 24
 Reassign Prob = 90 for Prob > 90 and Reassign Prob = 10 for Prob < 10

	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
1														
2														
3	Inconclusive between Constant Probability and Rolling Constant Probability													
4														
5														
6														
7	L5/L1	L2/L3	L3/L2	L2/L4	L4/L2	L2/L5	L5/L2	L3/L4	L4/L3	L3/L5	L5/L3	L4/L5	L5/L4	ψ
8														
9														
10	1 52	1 09	0 92	1 01	0 99	0 60	1 65	0 93	1 07	0 56	1 80	0 60	1 67	3 42
11	0 26	1 18	0 85	1 02	0 98	3 29	0 30	0 87	1 15	2 78	0 36	3 21	0 31	3 65
12	0 04	1 29	0 78	1 04	0 96	17 96	0 06	0 81	1 24	13 93	0 07	17 29	0 06	3 19
13	0 10	1 17	0 85	1 02	0 98	9 06	0 11	0 87	1 15	7 74	0 13	8 88	0 11	3 56
14	0 02	1 28	0 78	1 03	0 97	49 39	0 02	0 81	1 23	38 70	0 03	47 75	0 02	3 22
15	0 02	1 39	0 72	1 05	0 95	30 64	0 03	0 75	1 33	22 00	0 05	29 18	0 03	3 00
16	0 04	1 52	0 66	1 07	0 94	18 62	0 05	0 70	1 43	12 23	0 08	17 44	0 06	2 81
17	0 01	1 67	0 60	1 09	0 92	101 91	0 01	0 65	1 54	61 07	0 02	93 81	0 01	2 60
18	0 01	1 50	0 66	1 06	0 95	51 17	0 02	0 70	1 42	34 02	0 03	48 44	0 02	2 84
19	0 03	1 36	0 74	1 03	0 97	25 74	0 04	0 76	1 32	18 92	0 05	25 02	0 04	3 13
20	0 01	1 23	0 81	1 01	0 99	116 73	0 01	0 82	1 22	94 58	0 01	115 60	0 01	3 42
21	0 01	1 35	0 74	1 02	0 98	70 77	0 01	0 76	1 31	52 55	0 02	69 09	0 01	3 17
22	0 02	1 47	0 68	1 04	0 96	42 95	0 02	0 71	1 41	29 19	0 03	41 29	0 02	2 96
23	0 03	1 61	0 62	1 06	0 95	26 11	0 04	0 66	1 52	16 23	0 06	24 67	0 04	2 77
24	0 01	1 46	0 69	1 04	0 97	118 08	0 01	0 71	1 41	81 10	0 01	114 03	0 01	3 00
25	0 01	1 59	0 63	1 05	0 95	71 75	0 01	0 66	1 51	45 03	0 02	68 15	0 01	2 80
26	0 00	1 44	0 69	1 02	0 98	324 63	0 00	0 71	1 40	225 61	0 00	316 72	0 00	3 06
27	0 00	1 58	0 63	1 05	0 96	197 20	0 01	0 66	1 51	124 99	0 01	188 36	0 01	2 85
28	0 01	1 42	0 70	1 02	0 98	125 70	0 01	0 72	1 40	88 36	0 01	123 30	0 01	3 12
29	0 00	1 28	0 78	0 99	1 01	569 99	0 00	0 78	1 29	444 15	0 00	573 02	0 00	3 43
30	0 00	1 41	0 71	1 01	0 99	345 62	0 00	0 72	1 39	245 27	0 00	340 79	0 00	3 18
31	0 00	1 55	0 65	1 04	0 96	209 84	0 00	0 67	1 49	135 38	0 01	201 68	0 00	2 95
32	0 00	1 39	0 72	1 01	0 99	327 70	0 00	0 72	1 38	235 31	0 00	325 03	0 00	3 24
33	0 00	1 54	0 65	1 04	0 96	303 42	0 00	0 68	1 48	197 54	0 01	291 99	0 00	3 00
34	0 00	1 70	0 59	1 08	0 93	272 07	0 00	0 63	1 58	160 26	0 01	252 46	0 00	2 78
35	0 00	1 52	0 66	1 03	0 97	195 35	0 01	0 68	1 47	128 63	0 01	189 38	0 01	3 06
36	0 00	1 68	0 59	1 07	0 93	712 15	0 00	0 64	1 56	423 41	0 00	662 59	0 00	2 82
37	0 00	1 86	0 54	1 12	0 89	506 37	0 00	0 60	1 66	271 71	0 00	451 59	0 00	2 63
38	0 00	2 07	0 48	1 17	0 86	447 73	0 00	0 56	1 77	216 73	0 00	384 16	0 00	2 45
39	0 00	1 85	0 54	1 11	0 90	1836 20	0 00	0 60	1 66	994 74	0 00	1650 43	0 00	2 67
40	0 00	2 04	0 49	1 15	0 87	1183 91	0 00	0 56	1 77	580 09	0 00	1029 14	0 00	2 50
41	0 00	2 26	0 44	1 19	0 84	4640 32	0 00	0 53	1 90	2053 68	0 00	3896 23	0 00	2 34
42	0 00	2 02	0 50	1 15	0 87	2323 25	0 00	0 57	1 76	1150 18	0 00	2023 28	0 00	2 54
43	0 00	1 81	0 55	1 11	0 90	10487 60	0 00	0 61	1 63	5794 94	0 00	9456 07	0 00	2 76
44	0 00	2 00	0 50	1 14	0 88	6383 00	0 00	0 57	1 75	3194 11	0 00	5596 28	0 00	2 58
45	0 00	2 21	0 45	1 17	0 85	3889 62	0 00	0 53	1 88	1760 99	0 00	3311 99	0 00	2 42
46	0 00	1 98	0 51	1 13	0 88	2579 12	0 00	0 57	1 74	1304 76	0 00	2276 32	0 00	2 62
47	0 00	2 19	0 46	1 17	0 86	2209 55	0 00	0 53	1 87	1011 12	0 00	1894 46	0 00	2 46
48	0 00	2 42	0 41	1 21	0 83	1347 73	0 00	0 50	2 00	556 84	0 00	1115 68	0 00	2 31
49	0 00	2 16	0 46	1 16	0 86	4335 55	0 00	0 54	1 86	2004 99	0 00	3724 48	0 00	2 50
50	0 00	2 39	0 42	1 20	0 83	4326 22	0 00	0 50	1 99	1808 02	0 00	3606 91	0 00	2 35
51	0 00	2 14	0 47	1 16	0 86	4872 59	0 00	0 54	1 85	2278 15	0 00	4214 34	0 00	2 54

Appendix 24
 Reassign Prob = 90 for Prob > 90 and Reassign Prob = 10 for Prob < 10

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
52	Jul-90	-0.005223	0.006138	0.591146	0.548673	0.496214	0.532637	0.410000	1.37	0.73	2.63	0.38	1.53	0.65	5118.91
53	Aug-90	-0.094314	0.006006	0.591146	0.547865	0.496563	0.532637	0.100000	1.24	0.81	2.14	0.47	1.34	0.75	2325.43
54	Sep-90	-0.051184	0.005936	0.591146	0.547059	0.496748	0.532637	0.380000	1.12	0.89	1.74	0.58	1.17	0.85	1533.49
55	Oct-90	-0.006698	0.005787	0.591146	0.546256	0.497139	0.535248	0.620000	1.01	0.99	1.41	0.71	1.03	0.97	1649.93
56	Nov-90	0.059934	0.005701	0.591146	0.545455	0.497366	0.535248	0.360000	1.09	0.91	1.68	0.60	1.14	0.88	2709.30
57	Dec-90	0.024828	0.005450	0.591146	0.546120	0.498027	0.535248	0.100000	1.18	0.84	1.99	0.50	1.26	0.79	16015.90
58	Jan-91	0.041518	0.005041	0.591146	0.546784	0.499105	0.535248	0.250000	1.28	0.78	2.36	0.42	1.39	0.72	37870.94
59	Feb-91	0.067281	0.004820	0.591146	0.547445	0.499688	0.537859	0.900000	1.38	0.72	2.79	0.36	1.53	0.65	24874.72
60	Mar-91	0.022203	0.004796	0.591146	0.548105	0.499751	0.537859	0.800000	1.49	0.67	3.30	0.30	1.68	0.60	18380.74
61	Apr-91	0.000346	0.004591	0.591146	0.548763	0.500294	0.537859	0.900000	1.35	0.74	2.70	0.37	1.49	0.67	75150.40
62	May-91	0.038577	0.004440	0.591146	0.547965	0.500691	0.537859	0.900000	1.46	0.69	3.19	0.31	1.63	0.61	49360.94
63	Jun-91	-0.047893	0.004527	0.591146	0.548621	0.500461	0.537859	0.900000	1.32	0.76	2.61	0.38	1.45	0.69	201814.26
64	Jul-91	0.044859	0.004535	0.591146	0.547826	0.500440	0.537859	0.730000	1.43	0.70	3.08	0.32	1.59	0.63	163426.93
65	Aug-91	0.019649	0.004337	0.591146	0.548480	0.500963	0.537859	0.900000	1.54	0.65	3.64	0.27	1.75	0.57	107343.50
66	Sep-91	-0.019144	0.004249	0.591146	0.549133	0.501194	0.540470	0.740000	1.39	0.72	2.98	0.34	1.55	0.64	168799.37
67	Oct-91	0.011860	0.004066	0.591146	0.548341	0.501677	0.545692	0.850000	1.50	0.67	3.51	0.28	1.68	0.59	117394.17
68	Nov-91	-0.043928	0.003723	0.591146	0.548991	0.502584	0.558747	0.700000	1.36	0.73	2.89	0.35	1.56	0.64	159990.32
69	Dec-91	0.111588	0.003330	0.591146	0.548201	0.503621	0.566580	0.810000	1.47	0.68	3.39	0.29	1.63	0.61	116762.48
70	Jan-92	-0.019900	0.003113	0.591146	0.548851	0.504194	0.566580	0.100000	1.33	0.75	2.80	0.36	1.53	0.65	53043.14
71	Feb-92	0.009565	0.003145	0.591146	0.548063	0.504109	0.566580	0.100000	1.44	0.70	3.28	0.31	1.60	0.62	313562.33
72	Mar-92	-0.021832	0.003306	0.591146	0.548711	0.503684	0.566580	0.100000	1.30	0.77	2.70	0.37	1.51	0.66	142445.85
73	Apr-92	0.027893	0.003073	0.591146	0.547926	0.504301	0.569191	0.100000	1.40	0.71	3.17	0.32	1.57	0.64	842062.70
74	May-92	0.000964	0.002976	0.591146	0.548571	0.504556	0.569191	0.100000	1.27	0.79	2.61	0.38	1.49	0.67	382534.27
75	Jun-92	-0.017359	0.003000	0.591146	0.547789	0.504492	0.569191	0.100000	1.15	0.87	2.16	0.46	1.41	0.71	173778.59
76	Jul-92	0.039374	0.002636	0.591146	0.547009	0.505453	0.571802	0.900000	1.24	0.81	2.52	0.40	1.46	0.68	114142.77
77	Aug-92	-0.023998	0.002572	0.591146	0.547653	0.505624	0.571802	0.590000	1.12	0.89	2.08	0.48	1.39	0.72	113823.77
78	Sep-92	0.009106	0.002393	0.591146	0.546875	0.506096	0.574413	0.680000	1.21	0.82	2.44	0.41	1.44	0.70	98950.66
79	Oct-92	0.002106	0.002353	0.591146	0.547518	0.506203	0.574413	0.150000	1.10	0.91	2.02	0.50	1.38	0.73	47595.75
80	Nov-92	0.030262	0.002572	0.591146	0.546742	0.505624	0.571802	0.340000	1.18	0.84	2.36	0.42	1.43	0.70	82753.03
81	Dec-92	0.010108	0.002645	0.591146	0.547383	0.505432	0.571802	0.580000	1.28	0.78	2.76	0.36	1.47	0.68	84343.29

Appendix 24
 Reassign Prob = 90 for Prob > 90 and Reassign Prob = 10 for Prob < 10

	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
52	0.00	1.92	0.52	1.12	0.90	3727.35	0.00	0.58	1.72	1945.26	0.00	3338.35	0.00	2.76
53	0.00	1.72	0.58	1.08	0.93	1872.52	0.00	0.63	1.59	1088.13	0.00	1733.58	0.00	3.02
54	0.00	1.55	0.65	1.05	0.96	1367.97	0.00	0.68	1.48	883.23	0.00	1306.79	0.00	3.32
55	0.00	1.40	0.72	1.02	0.98	1633.44	0.00	0.73	1.37	1168.79	0.00	1598.24	0.00	3.67
56	0.00	1.53	0.65	1.04	0.96	2474.91	0.00	0.68	1.47	1614.77	0.00	2376.27	0.00	3.39
57	0.00	1.68	0.59	1.06	0.94	13515.99	0.00	0.63	1.58	8041.99	0.00	12718.94	0.00	3.14
58	0.00	1.84	0.54	1.09	0.92	29561.29	0.00	0.59	1.70	16055.21	0.00	27231.16	0.00	2.92
59	0.00	2.02	0.50	1.10	0.91	17981.32	0.00	0.55	1.83	8914.00	0.00	16273.91	0.00	2.74
60	0.00	2.21	0.45	1.13	0.89	12319.56	0.00	0.51	1.96	5568.47	0.00	10941.34	0.00	2.57
61	0.00	2.00	0.50	1.10	0.91	55590.46	0.00	0.55	1.82	27826.02	0.00	50564.41	0.00	2.78
62	0.00	2.19	0.46	1.12	0.89	33846.26	0.00	0.51	1.95	15480.26	0.00	30218.36	0.00	2.61
63	0.00	1.98	0.51	1.09	0.91	152774.85	0.00	0.55	1.81	77329.98	0.00	139651.43	0.00	2.83
64	0.00	2.16	0.46	1.11	0.90	114649.38	0.00	0.52	1.94	53012.33	0.00	102894.22	0.00	2.66
65	0.00	2.37	0.42	1.14	0.88	69869.94	0.00	0.48	2.08	29508.04	0.00	61491.76	0.00	2.50
66	0.00	2.14	0.47	1.11	0.90	121161.75	0.00	0.52	1.92	56610.71	0.00	108681.96	0.00	2.70
67	0.00	2.34	0.43	1.12	0.89	78162.23	0.00	0.48	2.09	33412.13	0.00	69772.78	0.00	2.54
68	0.00	2.12	0.47	1.15	0.87	117506.14	0.00	0.54	1.85	55399.14	0.00	102624.90	0.00	2.72
69	0.00	2.31	0.43	1.11	0.90	79527.21	0.00	0.48	2.08	34444.64	0.00	71784.17	0.00	2.59
70	0.00	2.10	0.48	1.15	0.87	39865.17	0.00	0.55	1.82	18975.39	0.00	34569.69	0.00	2.76
71	0.00	2.28	0.44	1.12	0.90	218486.30	0.00	0.49	2.05	95656.68	0.00	195864.82	0.00	2.63
72	0.00	2.08	0.48	1.16	0.86	109556.17	0.00	0.56	1.79	52751.00	0.00	94324.22	0.00	2.80
73	0.00	2.26	0.44	1.12	0.89	600286.29	0.00	0.50	2.02	266023.70	0.00	536884.62	0.00	2.67
74	0.00	2.06	0.49	1.17	0.85	301095.98	0.00	0.57	1.75	146444.18	0.00	256994.38	0.00	2.84
75	0.00	1.88	0.53	1.23	0.81	151287.73	0.00	0.66	1.53	80626.90	0.00	123017.33	0.00	3.04
76	0.00	2.03	0.49	1.18	0.85	91950.75	0.00	0.58	1.73	45281.23	0.00	78157.22	0.00	2.89
77	0.00	1.86	0.54	1.24	0.80	101447.94	0.00	0.67	1.49	54599.86	0.00	81626.34	0.00	3.09
78	0.00	2.01	0.50	1.18	0.85	81587.27	0.00	0.59	1.70	40636.41	0.00	68951.76	0.00	2.93
79	0.00	1.84	0.54	1.26	0.79	43431.52	0.00	0.68	1.46	23607.22	0.00	34523.53	0.00	3.13
80	0.00	1.99	0.50	1.20	0.83	69840.72	0.00	0.60	1.65	35107.00	0.00	58060.62	0.00	2.97
81	0.00	2.15	0.46	1.15	0.87	65913.18	0.00	0.53	1.87	30593.43	0.00	57239.92	0.00	2.82