Exhibit No. _____ (JVW-1T)
Docket No. UT-020406

BEFORE THE

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

AT&T COMMUNICATIONS OF THE PACIFIC NORTHWEST, INC.,	**)**	
COMPLAINANT	**)**	**DOCKET NO. UT-020406**
v.	**)**	
VERIZON NORTHWEST INC.,	**)**	
RESPONDENT	**)**	

DIRECT TESTIMONY OF

JAMES H. VANDER WEIDE, Ph.D.

ON BEHALF OF
VERIZON NORTHWEST, INC.

DECEMBER 3, 2002

Exhibit No. _____ (JVW-1T)
Docket No. UT-020406

VERIZON NORTHWEST INC.
DIRECT TESTIMONY OF DR. JAMES H. VANDER WEIDE
DOCKET NO. UT 020406
December 3, 2002

TABLE OF CONTENTS

Page

I. INTRODUCTION

Q. WHAT IS YOUR NAME AND BUSINESS ADDRESS?

A. My name is James H. Vander Weide. I am Research Professor of Finance and Economics Emeritus at the Fuqua School of Business of Duke University. I am also President of Financial Strategy Associates, a firm that provides strategic and financial consulting services to clients in the electric, gas, insurance, telecommunications, and water industries. My business address is 3606 Stoneybrook Drive, Durham, North Carolina.

Q. WOULD YOU PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PRIOR ACADEMIC EXPERIENCE?

A. I graduated from Cornell University in 1966 with a Bachelor's Degree in Economics. I then attended Northwestern University where I earned a Ph.D. in Finance. In January 1972, I joined the faculty of the School of Business at Duke University and was named Assistant Professor, Associate Professor, and then Professor.

Since joining the faculty, I have taught courses in corporate finance, investment management, and management of financial institutions. I have taught a graduate seminar on the theory of public utility pricing and lectured in executive development seminars on the cost of capital, financial analysis, capital budgeting, mergers and acquisitions, cash management, short-run financial planning, and competitive strategy. I have also served as Program Director of several executive education programs at the Fuqua School of

Business, including the Duke Advanced Management Program, the Duke Executive Program in Telecommunications, Competitive Strategies in Telecommunications, and the Duke Program for Manager Development for managers from the former Soviet Union.

I have conducted seminars and training sessions on financial analysis, financial strategy, cost of capital, cash management, depreciation policies, and short-run financial planning for a wide variety of U.S. and international companies, including ABB, Accenture, Allstate, Ameritech, AT&T, Bell Atlantic, BellSouth, Carolina Power & Light, Contel, Fisons, Glaxo Wellcome, GTE, Lafarge, MidAmerican Energy, New Century Energies, Norfolk Southern, Pacific Bell Telephone, The Rank Group, Siemens, Southern New England Telephone, TRW, and Wolseley PLC.

In addition to my teaching and executive education activities, I have written research papers on such topics as portfolio management, the cost of capital, capital budgeting, the effect of regulation on the performance of public utilities, and cash management. My articles have been published in *American Economic Review*, *Financial Management*, *International Journal of Industrial Organization*, *Journal of Finance*, *Journal of Financial and Quantitative Analysis*, *Journal of Bank Research*, *Journal of Accounting Research*, *Journal of Cash Management*, *Management Science*, *The Journal of Portfolio Management*, *Atlantic Economic Journal*, *Journal of Economics and Business*, and *Computers and Operations Research.* I have written a book titled *Managing Corporate Liquidity: an Introduction to Working Capital Management*, and a chapter for *The Handbook of Modern Finance*, "Financial Management in the Short Run."

Q. HAVE YOU PREVIOUSLY TESTIFIED ON FINANCIAL OR ECONOMIC ISSUES?

A. Yes. As an expert on financial and economic theory, I have testified on the cost of capital, competition, risk, incentive regulation, forward-looking economic cost, economic pricing guidelines, depreciation, accounting, valuation, and other financial and economic issues in more than 300 cases before the U.S. Congress, the Canadian Radio-Television and Telecommunications Commission, the Federal Communications Commission ("FCC"), the National Telecommunications and Information Administration, the Federal Energy Regulatory Commission, the public service commissions of 39 states, and the insurance commissions of five states. With respect to implementation of the Telecommunications Act of 1996, I have testified in 26 states and in Washington, D.C. on issues relating to the pricing of unbundled network elements and universal service cost studies. I have also consulted with Bell Canada, Deutsche Telekom, and Telefónica on similar issues.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I have been asked to make an independent appraisal of the cost of equity capital for Verizon Northwest Inc. ("Verizon") and to recommend a rate of return on equity that is fair, that allows Verizon to attract capital on reasonable terms, and that maintains Verizon's financial integrity. I have also been asked to recommend an appropriate capital structure for Verizon and an overall fair rate of return for the purpose of setting Verizon's rates in Washington. However, as explained by Verizon's witness, Mr. Fulp, I

understand that Verizon is not asking the Commission to change its authorized rate of return at this time.

Q. WHAT IS YOUR CONCLUSION ABOUT VERIZON'S COST OF EQUITY AND OVERALL COST OF CAPITAL FOR USE IN SETTING RATES IN THIS PROCEEDING?

A. I conclude that Verizon's cost of equity is 14.13% and its overall cost of capital is 12.45%.

Q. DO YOU HAVE EXHIBITS TO ACCOMPANY YOUR TESTIMONY?

A. Yes. Two schedules prepared by me or under my supervision accompany my testimony as Exhibit JVW-2 and Exhibit JVW-3.

II. ECONOMIC AND LEGAL PRINCIPLES

Q. HOW DO ECONOMISTS DEFINE THE REQUIRED RATE OF RETURN, OR COST OF CAPITAL, ASSOCIATED WITH PARTICULAR INVESTMENT DECISIONS, SUCH AS THE DECISION TO INVEST IN THE BUILDING OF TELECOMMUNICATIONS NETWORK FACILITIES?

A. Economists define the required rate of return on a particular investment as the return that investors forego by making that investment instead of an alternative investment of equal risk.

Q. HOW DOES THE COST OF CAPITAL AFFECT A FIRM'S INVESTMENT DECISIONS?

A. The goal of a firm is to maximize the value of the firm. This goal can be accomplished by accepting all investments in plant and equipment with an expected rate of return greater than or equal to the cost of capital. Thus, a firm should continue to invest in plant and equipment only so long as the return on its investment is greater than or equal to its cost of capital.

Q. HOW DOES THE COST OF CAPITAL AFFECT INVESTORS' WILLINGNESS TO INVEST IN A COMPANY?

A. The cost of capital measures the return investors can expect on investments of comparable risk. Rational investors will not invest in a particular investment opportunity if the expected return on that opportunity is less than the cost of capital. Thus, the expected rate of return on an investment in a company must exceed the cost of capital before investors will be willing to invest in that company.

Q. DO ALL INVESTORS HAVE THE SAME POSITION IN THE FIRM?

A. No. Debt investors have a fixed claim on a firm's assets and income that must be paid prior to any payment to the firm's equity investors. Since the firm's equity investors have a residual claim on the firm's assets and income, equity investments are riskier than debt investments. Thus, the cost of equity exceeds the cost of debt.

Q. WHAT IS THE OVERALL OR WEIGHTED AVERAGE COST OF CAPITAL?

A. The overall or weighted average cost of capital is a weighted average of the cost of debt and cost of equity, where the weights are the percentages of debt and equity in a firm's capital structure.

Q. CAN YOU ILLUSTRATE THE CALCULATION OF THE OVERALL OR WEIGHTED AVERAGE COST OF CAPITAL?

A. Yes. Assume that the cost of debt is 9 percent, the cost of equity is 15%, and the percentages of debt and equity in the firm's capital structure are 25 percent and 75 percent, respectively. Then the weighted average cost of capital is expressed by 0.25 times 9 percent plus 0.75 times 15 percent, or 13.5 percent.

Q. HOW DO ECONOMISTS DEFINE THE COST OF DEBT COMPONENT OF THE WEIGHTED AVERAGE COST OF CAPITAL?

A. Economists define the cost of debt as the market interest rate that a firm would have to pay on newly-issued debt obligations. In efficient markets, the market interest rate is also the best estimate of future interest rates. The correct economic definition of the cost of debt is thus forward-looking and market-oriented.

Q. HOW DO ECONOMISTS DEFINE THE COST OF EQUITY COMPONENT OF THE WEIGHTED AVERAGE COST OF CAPITAL?

A. Economists define the cost of equity as the return investors expect to receive on alternative equity investments of comparable risk. Since the return on an equity

investment of comparable risk is not a contractual return, the cost of equity is more difficult to measure than the cost of debt. There is agreement, however, as I have already noted, that the cost of equity is greater than the cost of debt. There is also agreement among economists that the cost of equity, unlike the cost of debt, is both forward looking and market based.

Q. WHAT APPROACHES DO ECONOMISTS EMPLOY TO OBTAIN NUMERICAL ESTIMATES OF THE COST OF EQUITY?

A. Economists generally use market models such as the DCF Model to estimate a firm's cost of equity. The DCF Model is based on the assumption that the market price of a firm's stock is equal to the present value of the stream of cash flows that investors expect to receive from owning the stock. The cost of equity in the DCF Model is that discount rate which equates the firm's stock price to the present value of the future stream of cash flows investors expect from owning the stock.

Q. HOW DO ECONOMISTS MEASURE THE PERCENTAGES OF DEBT AND EQUITY IN A FIRM'S CAPITAL STRUCTURE?

A. Economists measure the percentages of debt and equity in a firm's capital structure by first calculating the market value of the firm's debt and the market value of its equity. Economists then calculate the percentage of debt by the ratio of the market value of debt to the combined market value of debt and equity, and the percentage of equity by the ratio of the market value of equity to the combined market values of debt and equity. For example, if a firm's debt has a market value of $25 million and its equity has a market

value of $75 million, then its total market capitalization is $100 million, and its capital structure contains 25% debt and 75% equity.

Q. WHY DO ECONOMISTS MEASURE A FIRM'S CAPITAL STRUCTURE IN TERMS OF THE MARKET VALUES OF ITS DEBT AND EQUITY?

A. Economists measure a firm's capital structure in terms of the market values of its debt and equity because that is the best measure of the amounts of debt and equity that investors have invested in the company on a going-forward basis. Furthermore, investors measure the return and the risk of their security portfolios in terms of market values. Thus, to attract investment capital, firms must offer an expected return on the market value of their securities that is commensurate with expected returns on the market value of other securities of equal risk.

Q. IS THE ECONOMIC DEFINITION OF THE COST OF CAPITAL, WHICH FOCUSES ON THE MARKET VALUES OF DEBT AND EQUITY, WIDELY ACCEPTED IN OTHER CONTEXTS BY CAPITAL MARKET PARTICIPANTS?

A. Yes. Homeowners measure the value of their homes in terms of market values, not historical cost or book values. Investors measure the return and risk on their portfolios in terms of market values, not book values. Companies use a market value definition of the cost of capital to make entry, investment, and innovation decisions.

Q. IS THE ECONOMIC DEFINITION OF THE WEIGHTED AVERAGE COST OF CAPITAL CONSISTENT WITH THE WAY FIRMS DETERMINE THE REQUIRED RATE OF RETURN ON THEIR INVESTMENT DECISIONS?

A. Yes. Managers also use a market value definition of the weighted average cost of capital in making investment decisions. From the manager's perspective, the firm's cost of capital is equal to the return investors can earn on the market value of other investments of the same risk. Rational managers, like rational investors, will not commit resources to investments in new markets or technologies unless the expected return on the market value of these investments in new markets or technologies is greater than or equal to the firm's cost of capital, measured on a market value basis, for projects with the same degree of risk.

Q. WHY DO INVESTORS MEASURE THE RETURN ON THEIR INVESTMENT PORTFOLIOS USING MARKET VALUE WEIGHTS RATHER THAN BOOK VALUE WEIGHTS?

A. Investors measure the return on their investment portfolios using market value weights because market value weights are the best measure of the amounts the investors currently have invested in each security in the portfolio. From the point of view of investors, the historical cost or book value of their investment is entirely irrelevant to the current risk and return on their portfolios because if they were to sell their investments, they would receive market value and not historical cost. Thus, the return can only be measured in terms of market values.

Q. DOES THE REQUIRED RATE OF RETURN ON AN INVESTMENT VARY WITH THE RISK OF THAT INVESTMENT?

A. Yes. Since investors are averse to risk, they require a higher rate of return on investments with greater risk.

Q. DO ECONOMISTS AND INVESTORS CONSIDER FUTURE INDUSTRY CHANGES WHEN THEY ESTIMATE THE RISK OF A PARTICULAR INVESTMENT?

A. Yes. Economists and investors consider all the risks that a firm might incur over the future life of the company.

Q. WHAT PRACTICAL DIFFICULTIES ARISE WHEN ONE ATTEMPTS TO APPLY THESE PRINCIPLES?

A. The application of the above principles to the debt component of the firm's capital structure is straightforward. Several problems arise, however, when the above principles are applied to common equity. These problems stem from the fact that cash flows to equity investors, over any period of time, are not fixed by contract, and thus are not known with certainty. To induce equity investors to part with their money, the firm must offer them an expected return that is commensurate with expected returns on equity investments of similar risk. The need to measure investor expected returns increases the skill and judgment required to apply the above principles to the equity component of the firm's capital structure. The need for skill and judgment is especially pronounced today for a firm like Verizon, which is not publicly traded and is part of an industry that is

undergoing dramatic structural change caused by increased competition, uncertain regulation, and technological change.

Q. HOW DID YOU ADDRESS THESE DIFFICULTIES IN YOUR TESTIMONY?

A. I addressed these difficulties by applying the Discounted Cash Flow ("DCF") Model to two groups of risk comparable companies.

III. TELECOMMUNICATIONS RISK

Q. WHAT ARE THE MAJOR FACTORS THAT AFFECT THE RISK OF INVESTING IN LECS SUCH AS VERIZON?

A. The risk of investing in local exchange telecommunications companies such as Verizon depends on operating leverage, competition, rapidly changing technology, and the regulatory environment.

Q. WHAT IS OPERATING LEVERAGE?

A. Operating leverage refers to the relationship between the company's revenues, on the one hand, and the company's fixed and variable costs on the other. The provision of facilities-based telecommunications services is a business that requires a large commitment to fixed costs in relation to variable costs, a situation called high operating leverage. The relatively high degree of fixed costs in the provision of facilities-based telecommunications service exists because of the average LEC's large investment in fixed assets such as central office, transport, and loop facilities. High operating leverage

causes Verizon's net income to be highly sensitive to fluctuations in revenues. There is a positive correlation between operating leverage and risk: as operating leverage rises, so does the risk of operation.

Q. WHAT IS THE CURRENT STATUS OF COMPETITION IN VERIZON'S LOCAL EXCHANGE MARKET IN WASHINGTON?

A. Local exchange competition is extensive throughout Verizon's local exchange market in Washington. In the Seattle-Bellevue-Everett market, Verizon West's fifth largest market, Verizon faces strong competition from AT&T, WorldCom, Level 3, MFN, Global Crossing, ELI, 360, ATG, Focal, and XO. This market is especially attractive to CLECs, because 54% of Verizon's market in that area consists of multi-dwelling units. Multi-dwelling units are attractive targets for competitors because they can economically offer residents of multi-dwelling units a complete bundle of local exchange, cable TV, high-speed Internet, and wireless services without incurring the large investment costs associated with the typical residential customer.

In the Wenatchee-Richland area, Verizon faces competition from ELI and several public utility districts who are interested in the business and government customers located in this area.

Q. DO YOU HAVE ANY EVIDENCE THAT VERIZON HAS EXPERIENCED ACTUAL LINE LOSSES IN ITS SERVICE TERRITORIES IN WASHINGTON?

A. Yes. Verizon has suffered significant line losses as a result of competition. In just the past nine months, on an annualized basis, Verizon has lost nearly 3% of its lines. During the same period, there has been nearly a 90% increase in the number of total UNE-P lines sold to competitors.

Q. IN ADDITION TO THE CLECS, IS THERE ANY OTHER SOURCES OF LOCAL EXCHANGE COMPETITION IN WASHINGTON?

A. Yes. Verizon's local exchange territory in Washington is served by several wireless carriers that provide local and long distance telecommunications services at prices that are very competitive to the prices charged by Verizon. Recent wireless plans offer as many as 1,000 anytime minutes with no long distance charges for as little as $39 per month. Even for customers with modest monthly toll usage, these rates are highly competitive with a package of Verizon's local exchange service and toll service from other carriers at modest rates. Wireless carriers in Verizon's markets include AT&T Wireless, Cingular, Motient, T-Mobile, Hereuare, Wayport, Airweb2, Boingo, Go America, IPass, and GRIC.

Q. HOW DOES RAPIDLY CHANGING TECHNOLOGY AFFECT THE RISK OF INVESTING IN INCUMBENT LOCAL EXCHANGE COMPANIES SUCH AS VERIZON?

A. Rapidly changing technology increases Verizon's risk in two ways. First, it threatens Verizon's ability to recover the investment cost of its new telecommunications plant. Second, it reduces the cost of entry for competitors. Rapid advances in fiber optics, wireless, and multimedia transmission technologies, for example, have shortened the economic lives of the incumbent LECs' current investments in copper-based facilities and allowed cable TV, interexchange, and wireless companies to compete efficiently to offer local exchange service. Advances in these technologies further threaten the incumbent LECs' heavy investment in landline telecommunications service.

Q. IS VERIZON ABLE TO COMPETE ON EQUAL TERMS WITH COMPETITORS IN THE LOCAL EXCHANGE?

A. No. Verizon faces a number of disadvantages in its efforts to compete in a fully competitive local exchange market. First, as the incumbent LEC, Verizon has the unique obligation to incur the large capital expenditures required to provide telecommunications services to customers in Washington. Competitors, on the other hand, are able to serve customers in Washington without necessarily making any investment in network facilities. Thus, Verizon bears the considerable risks associated with a large investment in a fixed cost telecommunications network, while its competitors are free to enter and exit the market without incurring any fixed costs. The additional risks Verizon incurs as

a result of its large investment in the telecommunications network places Verizon at a cost disadvantage relative to its competitors.

Second, Verizon has the unique obligation to make significant investments in the technology and software needed to provide unbundled network elements to competitors. Verizon's competitors, however, have no obligation to lease UNEs from Verizon for more than one month at a time. Indeed, many of Verizon's competitors are in the process of developing their own facilities for providing local exchange service to Verizon's most profitable customers. Thus, Verizon faces the considerable risk that its investments in the technology and software needed to provide unbundled network elements to competitors will not be recovered, and is therefore at an additional cost disadvantage relative to its competitors.

Third, Verizon has the unique obligation to share the benefits of network investments with competitors. When Verizon invests to upgrade the technology in its network, Verizon must share the benefits of this investment with competitors through resale and through leasing of unbundled network elements. However, when Verizon's competitors invest to upgrade the technology in their networks, Verizon receives no benefit from the CLECs' investments because Verizon's competitors are not required to unbundle their networks.

Q. HOW DOES REGULATION AFFECT THE RISK OF VERIZON?

A. Regulation increases Verizon's risk in several ways. First, as the incumbent local exchange provider, Verizon's rates and services are still subject to regulation, while most competitors' rates and services are not. Being a regulated company in a competitive market is a highly risky proposition, as California's electric utilities and their investors have discovered.

Second, the FCC's TELRIC cost standard requires Verizon to provide UNEs to its competitors at rates that very likely will not allow it to cover the cost of its investment in network facilities. Verizon would almost certainly fail to recover its investment in network facilities when: (1) rates must reflect the cost of constructing a telecommunications network using the most efficient current technology; (2) new technologies arrive rapidly; and (3) customers have the option to cancel their lease of network facilities on a monthly basis. The ability of Verizon's competitors to obtain UNEs at below-cost rates allows these competitors to offer local exchange service in Verizon's territory at rates significantly below Verizon's current retail rates. The regulatory decision to allow competitors to obtain UNEs at below-cost rates thus creates additional risk for Verizon.

Third, having been viewed as the historic provider of last resort, Verizon, unlike its competitors, has faced obligations to provide services to all customers, whether they are profitable or not. Each of these factors increases the risk of investing in Verizon and thus increases Verizon's cost of capital.

Q. HOW DOES THE RISK OF INVESTING IN VERIZON'S LOCAL EXCHANGE OPERATIONS IN WASHINGTON COMPARE TO THE RISK OF INVESTING IN THE S&P INDUSTRIALS?

A. The risk of investing in Verizon's local exchange operations in Washington is at least as great as the risk of investing in the S&P Industrials. As I noted above, the risk of investing in Verizon's local exchange operations depends on operating leverage, competition, rapidly changing technology, and the regulatory environment. The degree of operating leverage required to provide facilities-based local exchange telecommunications services far exceeds the average degree of operating leverage required to provide the goods and services offered by companies in the S&P Industrials.

Telecommunications is also a high technology business that is particularly sensitive to the risks of competition and rapidly changing technology. To be sure, the combination of competition and rapidly changing technology has forced many companies in the telecommunications industry into bankruptcy in recent months. In addition, a regulatory environment that requires Verizon to provide UNEs to its competitors at rates that very likely will not allow it to cover the cost of its investment in network facilities, and places restrictions on Verizon in its ability to compete on equal terms with its competitors, exacerbates the risks.

These factors—high operating leverage, competition, rapidly changing technology, and the regulatory environment—make the risk of investing in Verizon's local exchange operations at least as great as the risk of investing in the S&P Industrials.

IV. COMPARABLE COMPANIES

Q. WHAT COMPANIES DO YOU RECOMMEND AS RISK PROXIES FOR VERIZON'S LOCAL EXCHANGE TELECOMMUNICATIONS BUSINESS IN WASHINGTON?

A. I recommend two groups of publicly-traded industrial companies as risk proxies for Verizon's local exchange telecommunications business in Washington.

Q. WHY DO YOU RECOMMEND GROUPS OF INDUSTRIAL COMPANIES AS RISK PROXIES FOR VERIZON'S LOCAL EXCHANGE TELECOMMUNICATIONS BUSINESS?

A. There are three reasons why I recommend groups of publicly-traded industrial companies as risk proxies for Verizon's local exchange telecommunications business. First, although the Regional Bell Holding Companies (RBHCs) may seem to be a natural proxy for Verizon's local exchange business, the RBHCs, in fact, have diversified into a number of telecommunications businesses that may have different risks than Verizon's local exchange business. In addition, as a result of mergers in the telecommunications industry, there are only three financially healthy RBHCs. Three companies is simply too small a sample for the purpose of estimating the cost of equity.

Second, there are no other regulated companies that face competitive, technology, and regulatory risks comparable to Verizon's local exchange operations. At the time the Commission last reviewed Verizon's rate of return in 1994, the Commission considered

the cost of equity results for a sample of regulated natural gas distribution companies. However, these companies are no longer reasonable proxies for Verizon's local exchange operations because Verizon's local exchange operations face significantly more competitive, technology, and regulatory risks than natural gas distribution companies.

Third, there are several large samples of industrial companies that are conservative proxies for the risk of investing in Verizon's local exchange operations. One can always obtain better cost of equity estimates from a large sample of comparable companies than from a very small sample.

Q. WHY DO YOU REQUIRE THAT YOUR PROXY COMPANIES BE PUBLICLY TRADED?

A. As noted above, I used the DCF Model to estimate the cost of equity for my proxy companies. The DCF Model uses information on a company's stock price, dividends, and investor growth expectations to estimate the cost of equity. The information required to implement the DCF Model is only available for publicly-traded companies.

Q. DOES FINANCIAL THEORY REQUIRE THAT PROXY COMPANIES BE IN THE SAME LINE OF BUSINESS?

A. No. Although it is convenient if proxy companies are in the same line of business, it is not necessary. Financial theory only requires that proxy companies have the same risk. According to financial theory, all companies with the same risk should have the same cost of equity.

Q. HOW DID YOU SELECT YOUR FIRST PROXY GROUP OF INDUSTRIAL COMPANIES?

A. I applied the DCF Model to a subset of the S&P Industrials that is significantly less risky than the average U.S. market-traded company. I included in this proxy group only those companies in the S&P Industrials which have a reported stock price, pay a dividend, have a positive growth rate, have at least three analysts' long-term growth estimates, and have at least one common share outstanding. To be conservative, I eliminated those 25% of companies with the highest and lowest DCF results.

Q. IS THERE ANY WAY TO COMPARE THE RISK OF YOUR FIRST PROXY GROUP TO THE AVERAGE RISK OF U.S. MARKET-TRADED COMPANIES?

A. Yes. *Value Line* publishes a set of equity risk measures, including ratings for beta, safety rank, financial strength, and earnings predictability, that are widely available to investors. In its *Guide to Using the Investment Survey*, *Value Line* defines beta, safety rank, financial strength, and price stability index as follows:

> **Beta**. A relative measure of the historical sensitivity of the stock's price to overall fluctuations in the New York Stock Exchange Composite Index.
>
> **Safety Rank**. A measure of potential risk associated with individual common stocks. The Safety Rank is computed by averaging two other Value Line indexes—the Price Stability Index and the Financial Strength rating. Safety Ranks range from 1 (Highest) to 5 (Lowest). Conservative investors should try to limit purchases to equities ranked 1 (Highest) or 2 (Above Average) for Safety.
>
> **Financial Strength**. A relative measure of financial strength of the companies reviewed by Value Line. The relative ratings range from A++ (strongest) down to C (weakest), in nine steps.

Earnings Predictability. Earnings predictability is a measure of the reliability of an earnings forecast. Predictability is based on the stability of year-to-year comparisons, with recent years being weighted more heavily than earlier ones.

These measures can be used to compare the average risk of U.S. market-traded companies, as represented by the *Value Line* universe, to the risk of my first proxy group.

Q. HOW DO THE AVERAGE RISK MEASURES FOR YOUR PROXY GROUP OF S&P INDUSTRIALS COMPARE TO THE AVERAGE RISK OF THE RBHCS AND THE *VALUE LINE* UNIVERSE?

A. As shown below in Table 1, the S&P Industrials are a safer group than either the RBHCs or the average company in the *Value Line* universe, using the *Value Line* equity risk ratings.

Table 1

Company Group	Safety Rank	Beta	Earnings Predictability	Financial Strength	Financial Strength (numerical)
S&P Industrial Group	1.6	0.91	83	A+ - A++	1.8
RBHCs	1.8	0.94	96	A+	2
Value Line universe	3	1.06	70	A	3

Q. HOW DID YOU SELECT YOUR SECOND PROXY GROUP OF COMPANIES?

A. To select my second proxy group, I identified companies from *Value Line* that have: (1) a beta greater than or equal to .85 and less than or equal to .95; (2) a Safety Rank of 1 or 2; (3) a Financial Strength rating equal to or greater than A; and (4) an Earnings Predictability rating equal to or greater than 85. Thus, my screening criteria assure that

the risk comparable group is significantly less risky than the average company in the Value Line universe.

Q. HOW DO THE AVERAGE RISK MEASURES FOR YOUR *VALUE LINE* PROXY GROUP OF COMPANIES COMPARE TO THE AVERAGE RISK MEASURES FOR THE RBHCS AND THE *VALUE LINE* UNIVERSE?

A. As shown below in Table 2, the Value Line proxy group of companies is also safer than either the RBHCs or the average company in the *Value Line* universe.

Table 2

Company Group	Safety Rank	Beta	Earnings Predictability	Financial Strength	Financial Strength (numerical)
Value Line universe	3	1.06	70	A	3
RBHCs	1.8	0.94	96	A+	2
Value Line Proxy Group	1.3	0.89	94	A++	1.3

V. THE DISCOUNTED CASH FLOW ("DCF") MODEL AND RESULTS

Q. WHAT METHOD DID YOU USE TO DETERMINE VERIZON'S COST OF EQUITY?

A. I used the DCF Model to determine Verizon's cost of equity.

Q. PLEASE DESCRIBE THE DCF MODEL.

A. The DCF Model suggests that investors value an asset on the basis of the future cash flows they expect to receive from owning the asset. Thus, investors value an investment in a bond because they expect to receive a sequence of semi-annual coupon payments

over the life of the bond and a terminal payment equal to the bond's face value at the time the bond matures. Likewise, investors value an investment in a firm's stock because they expect to receive a sequence of dividend payments and, perhaps, expect to sell the stock at a higher price sometime in the future.

A second fundamental principle of the DCF approach is that investors value a dollar received in the future less than a dollar received today. They place a higher value on the dollar received today because they can invest it in an interest earning account and increase their wealth. This principle is called the time value of money.

Applying the two fundamental DCF principles to an investment in a firm's stock suggests that the price of the stock should be equal to:

Equation 1

$$P_s = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \cdots + \frac{D_n + P_n}{(1+k)^n}$$

where:

P_S	=	Current price of the firm's stock;
$D_1, D_2 \ldots D_n$	=	Expected annual dividend per share on the firm's stock;
P_n	=	Price per share of stock at the time the investor expects to sell the stock; and
k	=	Return the investor expects to earn on alternative investments of the same risk, i.e., the investor's required rate of return.

Equation (1) is frequently called the annual Discounted Cash Flow (DCF) model of stock valuation.

Q. DOES THE ANNUAL DCF MODEL OF STOCK VALUATION PRODUCE APPROPRIATE ESTIMATES OF A FIRM'S COST OF EQUITY CAPITAL?

A. No. The annual DCF model of stock valuation produces appropriate estimates of a firm's cost of equity capital only if the firm pays dividends just once a year. Since most U.S. firms pay dividends quarterly, the annual DCF model produces downwardly biased estimates of the cost of equity. Investors can expect to earn a higher annual effective return on an investment in a firm that pays quarterly dividends than in one which pays the same amount of dollar dividends once at the end of each year. In the case of my proxy groups of industrial companies, however, the use of the quarterly DCF model, as opposed to a correctly applied annual DCF model, has very little impact on the DCF result (approximately 10 basis points).

Q. CAN YOU EXPLAIN HOW INVESTORS, IN PRACTICE, RECOGNIZE THE ACTUAL TIMING AND MAGNITUDE OF CASH FLOWS WHEN THEY VALUE STOCKS AND OTHER SECURITIES?

A. Yes. In valuing long-term government or corporate bonds, investors recognize that interest is paid semi-annually. Thus, the price of a long-term government or corporate bond is simply the present value of the semi-annual interest payments on these bonds. Likewise, in valuing mortgages, investors recognize that interest is paid monthly. Thus, the value of a mortgage loan is simply the present value of the monthly interest and principle payments on the loan. Stock investors correctly recognize quarterly dividends when valuing stocks.

Q. HOW DID YOU ESTIMATE THE GROWTH COMPONENT OF THE QUARTERLY DCF MODEL?

A. I used the mean of analysts' estimates of future earnings per share (EPS) growth reported by I/B/E/S (formerly known as the Institutional Brokers Estimate System).

Q. WHY DID YOU USE THE I/B/E/S GROWTH ESTIMATES?

A. I used the I/B/E/S mean growth rates because they: (1) are widely circulated in the financial community; (2) include the projections of a large number of reputable financial analysts who develop estimates of future growth; (3) are reported on a timely basis to investors; and (4) are widely used by institutional and other investors. In addition, there is considerable empirical evidence that analysts' forecasts are better predictors of future growth than a firm's historical growth rates and that investors actually use these forecasts. In my opinion, they provide the best available estimate of investors' long-term growth expectations.

Q. HAVE YOU PERFORMED ANY STUDIES THAT CONFIRM THE USE OF ANALYSTS' FORECASTS AS THE BEST ESTIMATE OF INVESTORS' EXPECTED GROWTH RATE, REFERRED TO AS "G?"

A. Yes, I prepared a study in conjunction with Willard T. Carleton, Karl Eller Professor of Finance at the University of Arizona, on why analysts' forecasts are the best estimate of investors' expectation of future long-term growth. This study is described in a paper entitled "Investor Growth Expectations and Stock Prices: the Analysts versus Historical

Growth Extrapolation," published in the Spring 1988 edition of the *Journal of Portfolio Management*.

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR STUDY.

A. First, we performed a correlation analysis to identify the historically-oriented growth rates which best described a firm's stock price. Then we did a regression study comparing the historical growth rates with the mean analysts' forecasts. In every case, the regression equations containing the mean analysts' forecasts statistically outperformed the regression equations containing the historical growth estimates. These results are consistent with those found by Cragg and Malkiel, the early major research in this area. These results are also consistent with the hypothesis that investors use analysts' forecasts, rather than historically-oriented growth calculations, in making buy and sell decisions. They provide overwhelming evidence that the mean analysts' forecasts of future growth are superior to historically-oriented growth measures in predicting a firm's stock price.

Q. ARE YOU AWARE OF ANY OTHER STUDIES WHICH CONFIRM THAT ANALYSTS' FORECASTS ARE THE BEST ESTIMATE OF INVESTORS' EXPECTED GROWTH RATE, G?

A. Yes. My results were corroborated in an article by David A. Gordon, Myron J. Gordon, and Lawrence A. Gould, "Choice Among Methods of Estimating Share Yield," (*The Journal of Portfolio Management*, Spring 1989).

Q. WHY DID YOU NOT USE FORECASTS OF GROWTH IN BOOK VALUE OR DIVIDENDS?

A. I did not use forecasts of growth in book value or dividends because long-term book value and dividend value growth forecasts are not generally available to investors. Furthermore, dividend and book value growth forecasts are more uncertain than earnings forecasts. Analysts normally forecast dividend and book value growth by first forecasting earnings growth, then determining how much of those earnings will be paid as dividends, and how much will be retained on a company's books. Therefore, there is an additional degree of uncertainty involved in a forecast of growth in dividends or book value that is not present in a forecast of earnings growth.

Q. WHY DID YOU NOT USE HISTORIC MEASURES OF GROWTH?

A. There is considerable empirical evidence that analysts' forecasts are better predictors of future growth than a firm's historical growth rates, and that investors actually use these forecasts. In addition, historical measures of growth are highly sensitive to: (1) the beginning and ending dates of the historical period selected; (2) the effect of one-time accounting adjustments and write-offs; and (3) dramatic restructurings of the business, such as divestitures, acquisitions, and down-sizings. Thus, historical growth measures alone are not likely to be indicative of the future. Analysts, on the other hand, are able to evaluate the effect of industry, technological, and competitive changes, and adjust historical data for the effect of unusual circumstances.

Q. WHAT IS THE RESULT OF YOUR APPLICATION OF THE DCF METHOD TO YOUR PROXY GROUPS?

A. As shown on Vander Weide Schedule 1 (Exhibit JVW-2), the market-weighted average DCF cost of equity for my S&P Industrial proxy group is 14.13%. As shown on Vander Weide Schedule 2 (Exhibit JVW-3), the market-weighted average DCF cost of equity for my *Value Line* proxy group is 13.82%.

VI. FAIR RATE OF RETURN ON TOTAL CAPITAL

Q. HOW DID YOU DETERMINE AN APPROPRIATE TARGET CAPITAL STRUCTURE FOR USE IN ESTIMATING VERIZON'S FAIR RATE OF RETURN ON TOTAL CAPITAL?

A. To determine an appropriate target capital structure for use in estimating Verizon's fair rate of return on total capital, I examined capital structure data for the S&P Industrials companies and a group of telecommunications companies with incumbent local exchange subsidiaries. I examined the most current available data for these companies, and I also reviewed data for the past five years. The average market value capital structure for these companies contains no more than 25% debt and no less than 75% equity. In addition, I examined current capital structure data for my *Value Line* proxy group. The current market value capital structure for this group of companies contains approximately 10% debt and 90% equity.

Q. WHAT ARE THE AVERAGE MARKET VALUE CAPITAL STRUCTURES OF THE S&P INDUSTRIALS AND THE TELECOMMUNICATIONS COMPANIES WITH INCUMBENT LOCAL EXCHANGE OPERATIONS?

A. Table 3 below shows the average year-end market value capital structures of the S&P Industrials and the telecommunications companies for the five-year period 1997 through 2001. These data show that both groups, on average, have at least 75% equity (and generally have more than 75% equity) in their capital structures.

Table 3
Capital Structure of the S&P Industrials
and Telecommunications Companies at Year End
($ in Millions)

	S&P Industrials			Telecom Companies		
	Market Value	Total Debt	Percent Equity	Market Value	Total Debt	Percent Equity
1997	2,080,904	235,259	89.8%	204,402	50,221	80.3%
1998	2,502,222	270.628	90.2%	308,895	53,124	85.3%
1999	2,639,323	308,404	89.5%	381,867	68,495	84.8%
2000	2,617,768	317,985	89.2%	398,400	112,479	78.0%
2001	2,383,103	343,324	87.4%	355,718	117,626	75.1%
Total	12,223,319	1,475,600	89.2%	1,649,282	401,946	80.4%

Q. HOW DID YOU MEASURE THE MARKET COST OF DEBT INVESTMENTS?

A. I used the average yield to maturity on Moody's A-rated industrial bonds as reported in the *Mergent Bond Record*.

Q. WHAT IS YOUR ESTIMATE OF VERIZON'S OVERALL WEIGHTED AVERAGE COST OF CAPITAL?

A. I estimate Verizon's overall weighted average cost of capital to be 12.45%. This estimate is based on a 7.40% market cost of debt, a target market value capital structure containing 25% debt and 75% equity, and a cost of equity of 14.13% (see Table 4).

Table 4
Weighted Average Cost of Capital
Using 25% Debt/75% Equity Capital Structure

Source of Capital	Cost Rate	Percent	Weighted Cost
Debt	7.40%	25.00%	1.85%
Equity	14.13%	75.00%	10.60%
WACC			12.45%

Alternatively, the 12.45% weighted average cost of capital is consistent with a 7.19% market cost of debt, a target market value capital structure containing 20% debt and 80% equity, and a cost of equity of 13.82% (see Table 5).

Table 5
Weighted Average Cost of Capital
Using 25% Debt/75% Equity Capital Structure

Source of Capital	Cost Rate	Percent	Weighted Cost
Debt	7.19%	20.00%	1.44%
Equity	13.82%	80.00%	11.06%
WACC			12.49%[1]

Q. WHAT IS VERIZON'S ACTUAL EARNED RATE OF RETURN ON ITS INTRASTATE OPERATIONS FOR THE 12 MONTHS ENDING JUNE 2002?

A. As noted in the testimony of Company Witness Heuring, Verizon's earned rate of return on intrastate operations as of September 2002 is 2.84%. If Verizon's access charges are reduced by $32 million, as proposed by Staff, Verizon's intrastate return would fall to 0.73%. Thus, Verizon's earned rate of return is significantly less than its weighted average cost of capital.

[1] Apparent discrepancy due to rounding.

Q. WHAT ARE THE ECONOMIC IMPLICATIONS OF A COMPANY'S EARNING SIGNIFICANTLY LESS THAN ITS WEIGHTED AVERAGE COST OF CAPITAL?

A. If a company is earning less than its weighted average cost of capital, there is no incentive for the company to invest in plant and equipment. In particular, since Verizon is already earning less than its weighted average cost of capital, it would be economically inappropriate to reduce Verizon's rate of return further through an uncompensated reduction in access charges. Such an action would only harm Verizon's customers by further reducing Verizon's incentive to invest in its telecommunications network in Washington.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

Vander Weide Schedule 1
Summary of Discounted Cash Flow Analysis
S&P Industrial Companies

Company	Price	Dividend	Growth	Cost of Equity
3m Co	120.20	2.48	11.7%	14.15%
Abbott Laboratories	53.29	0.84	12.8%	14.68%
Air Products & Chemicals Inc	48.87	0.80	10.4%	12.31%
Albertsons Inc	34.13	0.76	10.9%	13.52%
Allegheny Technologies Inc	16.50	0.80	8.9%	14.57%
Anheuser-Busch Cos Inc	52.30	0.72	11.0%	12.62%
Autodesk Inc	20.29	0.12	14.7%	15.42%
Avery Dennison Corp	61.95	1.32	11.4%	13.92%
Avon Products	55.40	0.80	11.6%	13.31%
Bard (C.R.) Inc	56.77	0.84	11.8%	13.55%
Bausch & Lomb Inc	38.38	1.04	10.3%	13.48%
Baxter International Inc	57.58	0.58	14.0%	15.21%
Becton Dickinson & Co	37.35	0.39	12.0%	13.24%
Bemis Co	54.83	1.04	10.3%	12.52%
Black & Decker Corp	47.41	0.48	14.2%	15.42%
Bristol Myers Squibb	34.50	1.12	10.0%	13.81%
Brunswick Corp	26.90	0.50	10.2%	12.37%
Carnival Corp	32.02	0.42	13.1%	14.67%
Caterpillar Inc	55.92	1.40	11.8%	14.78%
Centex Corp	53.90	0.16	13.6%	13.96%
Centurytel Inc	30.73	0.21	12.0%	12.81%
Cigna Corp	105.14	1.28	13.4%	14.86%
Circuit City Str Crct Cty Gp	20.31	0.07	14.7%	15.12%
Clorox Co/De	44.31	0.84	10.6%	12.82%
Coca-Cola Co	53.77	0.80	12.1%	13.87%
Colgate-Palmolive Co	55.94	0.72	12.4%	13.93%
Compaq Computer Corp	10.20	0.10	14.4%	15.59%
Conagra Foods Inc	24.86	0.94	9.9%	14.34%
Conoco Inc	28.24	0.76	9.6%	12.74%
Cooper Industries Inc	43.77	1.40	11.3%	15.10%
Cvs Corp	33.69	0.23	12.5%	13.31%
Darden Restaurants Inc	38.33	0.08	15.3%	15.55%
Deere & Co	44.42	0.88	10.1%	12.41%
Delphi Corp	15.93	0.28	11.4%	13.48%
Disney (Walt) Co	23.64	0.21	12.6%	13.66%
Dover Corp	38.97	0.54	13.1%	14.76%
Dow Chemical	31.76	1.34	8.8%	13.71%
Dow Jones & Co Inc	56.86	1.00	11.4%	13.48%
Du Pont (E I) De Nemours	45.63	1.40	9.8%	13.39%
Eastman Kodak Co	32.60	1.80	7.0%	13.36%
Emerson Electric Co	55.49	1.55	11.2%	14.51%

Company	Price	Dividend	Growth	Cost of Equity
Engelhard Corp	31.10	0.40	11.0%	12.51%
Equifax Inc	28.52	0.08	13.2%	13.53%
Fluor Corp	42.50	0.64	13.3%	15.11%
Fortune Brands Inc	51.01	1.00	11.5%	13.82%
Gap Inc	14.60	0.09	14.8%	15.55%
General Dynamics Corp	94.76	1.12	11.2%	12.59%
General Mills Inc	46.00	1.10	11.5%	14.33%
Gillette Co	34.79	0.65	10.1%	12.28%
Grainger (W W) Inc	56.40	0.70	11.9%	13.37%
Hewlett-Packard Co	17.68	0.32	11.8%	13.95%
Hilton Hotels Corp	15.49	0.08	14.3%	14.92%
Honeywell International Inc	38.35	0.75	13.2%	15.55%
Illinois Tool Works	73.50	0.88	14.0%	15.44%
Ingersoll-Rand Co Ltd	49.00	0.68	11.2%	12.83%
Interpublic Group Of Cos	32.66	0.38	14.1%	15.50%
Itt Industries Inc	66.54	0.60	12.2%	13.27%
Johnson & Johnson	63.54	0.72	14.0%	15.37%
Johnson Controls Inc	88.73	1.32	11.8%	13.56%
Kb Home	46.48	0.30	13.3%	14.07%
Kimberly-Clark Corp	64.67	1.20	11.0%	13.18%
Lilly (Eli) & Co	70.95	1.24	13.2%	15.30%
Liz Claiborne Inc	29.77	0.22	12.7%	13.58%
Lockheed Martin Corp	60.42	0.44	14.0%	14.88%
Marathon Oil Corp	28.82	0.92	9.6%	13.33%
Mattel Inc	20.68	0.20	13.5%	14.66%
May Department Stores Co	35.15	0.94	9.7%	12.82%
Mcgraw-Hill Companies	65.20	1.02	12.1%	13.96%
Merck & Co	54.40	1.40	10.8%	13.83%
Molex Inc	33.82	0.10	14.6%	14.96%
New York Times Co	47.22	0.50	11.4%	12.65%
Newell Rubbermaid Inc	31.48	0.84	12.2%	15.39%
Nike Inc -Cl B	56.20	0.48	13.5%	14.52%
Nordstrom Inc	23.70	0.36	11.5%	13.29%
Northrop Grumman Corp	116.70	1.60	11.5%	13.12%
Nucor Corp	61.72	0.76	12.0%	13.46%
Paccar Inc	73.97	1.20	11.3%	13.21%
Parker-Hannifin Corp	48.45	0.72	11.4%	13.15%
Pepsico Inc	51.69	0.58	13.0%	14.34%
Pitney Bowes Inc	43.04	1.18	10.7%	13.93%
Procter & Gamble Co	90.30	1.52	10.9%	12.88%
Raytheon Co	40.23	0.80	12.5%	14.87%
Rockwell Automation	20.29	0.66	10.0%	13.82%
Rohm & Haas Co	38.91	0.80	11.4%	13.83%
Royal Dutch Petroleum	53.44	1.41	11.5%	14.63%
Sara Lee Corp	21.48	0.60	9.3%	12.55%
Schering-Plough	29.30	0.64	11.3%	13.88%
Scientific-Atlanta Inc	22.01	0.04	13.4%	13.62%
Sears Roebuck & Co	51.61	0.92	11.2%	13.30%

Company	Price	Dividend	Growth	Cost of Equity
Sherwin-Williams Co	29.43	0.60	11.2%	13.61%
Sigma-Aldrich	46.08	0.34	12.2%	13.07%
Snap-On Inc	32.78	0.96	10.4%	13.84%
Stanley Works	47.99	0.96	12.5%	14.89%
Sysco Corp	29.02	0.36	13.9%	15.39%
Target Corp	43.41	0.22	14.5%	15.11%
Tjx Companies Inc	41.28	0.18	15.0%	15.53%
Tribune Co	45.26	0.44	12.8%	13.96%
United Technologies Corp	71.03	0.98	13.6%	15.26%
Unocal Corp	37.97	0.80	10.9%	13.38%
Vf Corp	43.35	0.96	10.8%	13.41%
Vulcan Materials Co	47.98	0.94	13.2%	15.55%
Wal-Mart Stores	57.84	0.28	13.6%	14.18%
Waste Management Inc	26.34	0.01	13.8%	13.85%
Wendy's International Inc	36.31	0.24	13.9%	14.69%
Whirlpool Corp	75.49	1.36	10.3%	12.41%
Winn-Dixie Stores Inc	17.21	1.02	8.5%	15.43%
Wrigley (Wm) Jr Co	54.03	0.76	11.1%	12.75%
Xerox Corp	9.74	0.20	11.7%	14.13%
Market Weighted Average				14.13%

Source: Standard & Poor's Compustat Database. Price is average of April 2002 high and low prices. Quarterly dividend obtained from the annual dividend rate as reported by Compustat, divided by 4. Growth rate is the I/B/E/S mean estimate of long-term growth rate as reported by Compustat.

Notes: In applying the DCF Model to the S&P Industrials, I included in the DCF analysis only those companies in the S&P Industrial group which have a reported stock price, pay a dividend, have a positive growth rate, have at least three analysts' long-term growth estimates, and have at least one common share outstanding. To be conservative, I also eliminated those 25 percent of companies with the highest and lowest DCF results, those companies with cost of equity results equal to or below the April 2002 average yield on Moody's A-rated industrial bonds or equal to or above 20 percent. The weighted average DCF result for all four quartiles of the S&P Industrials was 14.34 percent, while the weighted average DCF result for 2nd and 3rd quartiles shown here on Exhibit JVW -2 is 14.13 percent. Elimination of the 1st and 4th quartiles of the S&P Industrials had a negligible effect on the market value capital structure.

Notation:

d_0	=	Quarterly Dividend (annual dividend divided by 4).
P_0	=	Average of the monthly high and low stock prices April 2002.
FC	=	Flotation costs expressed as a percent of gross proceeds (5 percent).
g	=	I/B/E/S mean forecast of future earnings growth April 2002.
k	=	Cost of equity using the quarterly version of the DCF Model as shown by the formula below:

$$k = \left[\frac{d_0 (1+g)^{\frac{1}{4}}}{P_0} + (1+g)^{1/4} \right]^4 - 1$$

Vander Weide Schedule 2
Summary of Discounted Cash Flow Analysis
Value Line Companies

Company	Price	Dividend	Growth	Cost of Equity
3M	120.36	0.620	11.42%	13.94%
Abbott Labs.	40.37	0.235	12.71%	15.55%
Automatic Data Proc.	37.66	0.115	13.29%	14.83%
Avery Dennison	60.16	0.330	11.50%	14.21%
Bard (C.R.)	54.35	0.220	11.86%	13.82%
Becton Dickinson	29.65	0.098	11.86%	13.49%
Bemis Co.	50.49	0.260	9.80%	12.26%
Colgate-Palmolive	54.47	0.180	11.82%	13.45%
Fortune Brands	50.31	0.250	10.67%	13.10%
Gannett Co.	73.05	0.240	10.32%	11.86%
Genuine Parts	31.09	0.290	10.60%	15.16%
IMS HEALTH	15.78	0.020	14.83%	15.48%
Johnson Controls	78.99	0.330	12.33%	14.41%
Lauder (Estee)	28.83	0.050	12.70%	13.56%
Lee Enterprises	31.38	0.170	10.10%	12.73%
Lilly (Eli)	57.92	0.310	11.83%	14.41%
Liz Claiborne	27.62	0.057	12.58%	13.61%
McDonald's Corp.	20.67	0.056	9.43%	10.73%
Merck & Co.	48.79	0.360	9.11%	12.58%
Pitney Bowes	33.88	0.295	9.67%	13.88%
Sherwin-Williams	26.16	0.150	10.15%	12.91%
Sonoco Products	22.67	0.210	9.78%	14.17%
Vulcan Materials	37.53	0.235	12.71%	15.82%
Wyeth	37.52	0.230	12.37%	15.43%
Market Weighted Average				13.82%

Notes:

d_1,d_2,d_3,d_4 = Next four quarterly dividends, calculated by multiplying the last four quarterly dividends per *Value Line* by the factor (1 + g).

P_0 = Average of the monthly high and low stock prices during the three months ending October 2002 per S&P Stock Guide.

FC = Flotation costs expressed as a percent of gross proceeds.

g = I/B/E/S forecast of future earnings growth October 2002.

k = Cost of equity using the quarterly version of the DCF model shown by the formula below:

$$k = \frac{d_1(1+k)^{.75} + d_2(1+k)^{.50} + d_3(1+k)^{.25} + d_4}{P_0(1-FC)} + g$$