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Exhibit No. ___ (WEA-3)

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-08_____

DOCKET NO. UG-08_____

EXHIBIT NO._____(WEA-3)

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EXHIBIT NO.___(WEA-3)

QUANTITATIVE ANALYSES

Q. What is the purpose of this exhibit?

A. This exhibit presents capital market estimates of the cost of equity. First, I examine the concept of the cost of equity, along with the risk-return tradeoff principle fundamental to capital markets. Next, I describe DCF, CAPM, and expected earnings analyses conducted to estimate the cost of equity for reference groups of comparable risk firms.

A. Overview

Q. What role does the rate of return on common equity play in a utility's rates?

A. The return on common equity is the cost of inducing and retaining investment in the utility's physical plant and assets. This investment is necessary to finance the asset base needed to provide utility service. Investors will commit money to a particular investment only if they expect it to produce a return commensurate with those from other investments with comparable risks. Moreover, the return on common equity is integral in achieving the sound regulatory objectives of rates that are sufficient to: 1) fairly compensate capital investment in the utility, 2) enable the utility to offer a return adequate to attract new capital on reasonable terms, and 3) maintain the utility's financial integrity. Meeting these objectives allows the utility to fulfill its obligation to provide reliable service while meeting the needs of customers through necessary system expansion.

Q. What fundamental economic principle underlies any evaluation of investors' required return on equity?

A. The fundamental economic principle underlying the cost of equity concept is the notion that investors are risk averse. The required rate of return for a particular asset at any point in time is a function of: 1) the yield on risk-free assets, and 2) its relative risk, with investors demanding correspondingly larger risk premiums for assets bearing greater risk. Given this risk-return tradeoff, the required rate of return (k) from an asset (i) can be generally expressed as:

$$k_i = R_f + RP_i$$

where: R_f = Risk-free rate of return; and
RP_i = Risk premium required to hold risky asset i.

Thus, the required rate of return for a particular asset at any point in time is a function of: 1) the yield on risk-free assets, and 2) its relative risk, with investors demanding correspondingly larger risk premiums for assets bearing greater risk.

Because common shareholders have the lowest priority claim on a firm's cash flows, they receive only the residual that remains after all other claimants (employees, suppliers, governments, lenders) have been paid. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, is considerably higher than the yield on the utility's long-term debt.

Q. Is the cost of equity observable in the capital markets?

A. No. Unlike debt capital, there is no contractually guaranteed return on common equity capital since shareholders are the residual owners of the utility. Because it is unobservable, the cost of equity for a particular utility must be estimated by analyzing information about capital market conditions generally, assessing the relative risks of the

company specifically, and employing various quantitative methods that focus on investors' current required rates of return. These various quantitative methods typically attempt to infer investors' required rates of return from stock prices, interest rates, or other capital market data.

A. Discounted Cash Flow Analyses

Q. How are DCF models used to estimate the cost of equity?

A. DCF models attempt to replicate the market valuation process that sets the price investors are willing to pay for a share of a company's stock. The model rests on the assumption that investors evaluate the risks and expected rates of return from all securities in the capital markets. Given these expectations, the price of each stock is adjusted by the market until investors are adequately compensated for the risks they bear. Therefore, we can look to the market to determine what investors believe a share of common stock is worth. By estimating the cash flows investors expect to receive from the stock in the way of future dividends and capital gains, we can calculate their required rate of return. In other words, the cash flows that investors expect from a stock are estimated, and given its current market price, we can "back-into" the discount rate, or cost of equity, that investors implicitly used in bidding the stock to that price.

Q. What market valuation process underlies DCF models?

A. DCF models assume that the price of a share of common stock is equal to the present value of the expected cash flows (i.e., future dividends and stock price) that will be received while holding the stock, discounted at investors' required rate of return. That is, the cost of equity is the discount rate that equates the current price of a share of stock with the present value of all expected cash flows from the stock.

Q. What form of the DCF model is customarily used to estimate the cost of equity in rate cases?

A. Rather than developing annual estimates of cash flows into perpetuity, the DCF model can be simplified to a "constant growth" form: [1]

$$P_0 = \frac{D_1}{k_e - g}$$

where: P_0 = Current price per share;
D_1 = Expected dividend per share in the coming year;
k_e = Cost of equity;
g = Investors' long-term growth expectations.

The cost of equity (K_e) can be isolated by rearranging terms:

$$k_e = \frac{D_1}{P_0} + g$$

This constant growth form of the DCF model recognizes that the rate of return to stockholders consists of two parts: 1) dividend yield (D_1/P_0), and 2) growth (*g*). In other words, investors expect to receive a portion of their total return in the form of current dividends and the remainder through price appreciation.

Q. How did you define the utility proxy group you used to implement the DCF model?

A. As discussed in Exhibit No.___(WEA-1T), my utility proxy group was composed of those dividend-paying companies included by Value Line in its Electric Utilities Industry groups with: (1) S&P corporate credit ratings between "BBB-" and "BBB+," (2) a Value Line Safety Rank of "2" or "3", and (3) a Value Line Financial Strength Rating of

[1] The constant growth DCF model is dependent on a number of strict assumptions, which in practice are never strictly met. These include a constant growth rate for both dividends and earnings; a stable dividend payout ratio; the discount rate exceeds the growth rate; a constant growth rate for book value and price; a constant earned rate of return on book value; no sales of stock at a price above or below book value; a constant price-earnings ratio; a constant discount rate (*i.e.*, no changes in risk or interest rate levels and a flat yield curve); and all of the above extend to infinity.

"B+" to "B++", and (4) published growth estimates from IBES, Value Line, Reuters, and Zacks. I excluded two companies that otherwise would have been in the proxy group (Energy East Corporation and Puget Energy, Inc.) because they are in the process of being acquired.

Q. Do these criteria provide objective evidence that investors would view the firms in the utility proxy group as risk-comparable to Avista?

A. Yes. Credit ratings are assigned by independent rating agencies to provide investors with a broad assessment of the creditworthiness of a firm. Because the rating agencies' evaluation includes virtually all of the factors normally considered important in assessing a firm's relative credit standing, corporate credit ratings provide a broad measure of overall investment risk that is readily available to investors. Widely cited in the investment community and referenced by investors as an objective measure of risk, credit ratings are also frequently used as a primary risk indicator in establishing proxy groups to estimate the cost of equity.

Apart from the broad assessment of investment risk provided by credit ratings, other quality rankings published by investment advisory services also provide relative assessments of risk that are considered by investors in forming their expectations. Given that Value Line is perhaps the most widely available source of investment advisory information, its Safety Rank and Financial Strength Rating provide useful guidance regarding the risk perceptions of investors.

The Safety Rank is Value Line's primary risk indicator and ranges from "1" (Safest) to "5" (Riskiest). This overall risk measure is intended to capture the total risk of a stock, and incorporates elements of stock price stability and financial strength. The Financial Strength Rating is designed as a guide to overall financial strength and creditworthiness, with

the key inputs including financial leverage, business volatility measures, and company size. Value Line's Financial Strength Ratings range from "A++" (strongest) down to "C" (weakest) in nine steps.

As discussed earlier, Avista is rated "BBB-" by S&P, which indicates slightly greater risk than the "BBB" average rating for the firms in the utility proxy group. Meanwhile, Value Line has assigned Avista a Safety Rank of "3" and a Financial Strength Rating of "B+" versus averages of "3" and "B++", respectively for the utility proxy group. Based on my screening criteria, which reflect objective, published indicators that incorporate consideration of a broad spectrum of risks, including financial and business position, relative size, and exposure to company specific factors, investors are likely to regard this group as having risks and prospects generally comparable to Avista.

Q. What steps are required to apply the DCF model?

A. The first step in implementing the constant growth DCF model is to determine the expected dividend yield (D_1/P_0) for the firm in question. This is usually calculated based on an estimate of dividends to be paid in the coming year divided by the current price of the stock. The second, and more controversial, step is to estimate investors' long-term growth expectations (g) for the firm. The final step is to sum the firm's dividend yield and estimated growth rate to arrive at an estimate of its cost of equity.

Q. How was the dividend yield for the utility proxy group determined?

A. Estimates of dividends to be paid by each of these utilities over the next twelve months, obtained from Value Line, served as D_1. This annual dividend was then divided by the corresponding stock price for each utility to arrive at the expected dividend yield. The expected dividends, stock prices, and resulting dividend yields for the firms in the

utility proxy group are presented on Schedule WEA-5. As shown there, dividend yields for the twenty firms in the utility proxy group ranged from 2.4 percent to 6.0 percent.

Q. What is the next step in applying the constant growth DCF model?

A. The next step is to evaluate long-term growth expectations, or "*g*", for the firm in question. In constant growth DCF theory, earnings, dividends, book value, and market price are all assumed to grow in lockstep, and the growth horizon of the DCF model is infinite. But implementation of the DCF model is more than just a theoretical exercise; it is an attempt to replicate the mechanism investors used to arrive at observable stock prices. A wide variety of techniques can be used to derive growth rates, but the only "*g*" that matters in applying the DCF model is the value that investors expect.

Q. Are historical growth rates likely to be representative of investors' expectations for utilities?

A. No. If past trends in earnings, dividends, and book value are to be representative of investors' expectations for the future, then the historical conditions giving rise to these growth rates should be expected to continue. That is clearly not the case for utilities, where structural and industry changes have led to declining dividends, earnings pressure, and, in many cases, significant write-offs. While these conditions serve to depress historical growth measures, they are not representative of long-term expectations for the utility industry. Moreover, to the extent historical trends for utilities are meaningful, they are also captured in projected growth rates, since securities analysts also routinely examine and assess the impact and continued relevance (if any) of historical trends.

Q. What are investors most likely to consider in developing their long-term growth expectations?

A. While the DCF model is technically concerned with growth in dividend cash flows, implementation of this DCF model is solely concerned with replicating the forward-looking evaluation of real-world investors. In the case of electric utilities, dividend growth rates are not likely to provide a meaningful guide to investors' current growth expectations. This is because utilities have significantly altered their dividend policies in response to more accentuated business risks in the industry.[2] As a result of this trend towards a more conservative payout ratio, dividend growth in the utility industry has remained largely stagnant as utilities conserve financial resources to provide a hedge against heightened uncertainties.

As payout ratios for firms in the utility industry trended downward, investors' focus has increasingly shifted from dividends to earnings as a measure of long-term growth. Future trends in earnings, which provide the source for future dividends and ultimately support share prices, play a pivotal role in determining investors' long-term growth expectations. The importance of earnings in evaluating investors' expectations and requirements is well accepted in the investment community. As noted in *Finding Reality in Reported Earnings* published by the Association for Investment Management and Research:

> [E]arnings, presumably, are the basis for the investment benefits that we all seek. "Healthy earnings equal healthy investment benefits" seems a logical equation, but earnings are also a scorecard by which we compare companies, a filter through which we assess management, and a crystal ball in which we try to foretell future performance.[3]

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[2] For example, the payout ratio for electric utilities fell from approximately 80% historically to on the order of 60%. The Value Line Investment Survey (Sep. 15, 1995 at 161, Dec. 28, 2007 at 695).

[3] Association for Investment Management and Research, "Finding Reality in Reported Earnings: An Overview", p. 1 (Dec. 4, 1996).

Value Line's near-term projections and its Timeliness Rank, which is the principal investment rating assigned to each individual stock, are also based primarily on various quantitative analyses of earnings. As Value Line explained:

> The future earnings rank accounts for 65% in the determination of relative price change in the future; the other two variables (current earnings rank and current price rank) explain 35%.[4]

The fact that investment advisory services, such as Value Line, Thompson, and Reuters, focus on growth in earnings indicates that the investment community regards this as a superior indicator of future long-term growth. Indeed, "A Study of Financial Analysts: Practice and Theory," published in the *Financial Analysts Journal*, reported the results of a survey conducted to determine what analytical techniques investment analysts actually use.[5] Respondents were asked to rank the relative importance of earnings, dividends, cash flow, and book value in analyzing securities. Of the 297 analysts that responded, only 3 ranked dividends first while 276 ranked it last. The article concluded:

> Earnings and cash flow are considered far more important than book value and dividends.[6]

More recently, the *Financial Analysts Journal* reported the results of a study of the relationship between valuations based on alternative multiples and actual market prices, which concluded, "In all cases studied, earnings dominated operating cash flows and dividends."[7]

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[4] The Value Line Investment Survey, *Subscriber's Guide*, p. 53.
[5] Block, Stanley B., "A Study of Financial Analysts: Practice and Theory", *Financial Analysts Journal* (July/August 1999).
[6] *Id.* at 88.
[7] Liu, Jing, Nissim, Doron, & Thomas, Jacob, "Is Cash Flow King in Valuations?," *Financial Analysts Journal*, Vol. 63, No. 2 (March/April 2007) at 56.

Q. What are security analysts currently projecting in the way of growth for the firms in the utility proxy group?

A. The IBES earnings growth projections for each of the firms in the utility proxy group reported by Thomson Financial are displayed on Schedule WEA-5. Also presented are the earnings per share ("EPS") growth projections reported by Value Line, Reuters, and Zacks.

Q. How else are investors' expectations of future long-term growth prospects often estimated for use in the constant growth DCF model?

A. Based on the assumptions underlying constant growth theory, conventional applications of the constant growth DCF model often examine the relationship between retained earnings and earned rates of return as an indication of the sustainable growth investors might expect from the reinvestment of earnings within a firm. The sustainable growth rate is calculated by the formula, g = br+sv, where "b" is the expected retention ratio, "r" is the expected earned return on equity, "s" is the percent of common equity expected to be issued annually as new common stock, and "v" is the equity accretion rate.

Q. What is the purpose of the "sv" term?

A. Under DCF theory, the "sv" factor is a component of the growth rate designed to capture the impact of issuing new common stock at a price above, or below, book value. When a company's stock price is greater than its book value per share, the per-share contribution in excess of book value associated with new stock issues will accrue to the current shareholders. This increase to the book value of existing shareholders leads to higher expected earnings and dividends, with the "sv" factor incorporating this additional growth component.

Q. How did you apply the earnings retention method for the proxy group of utilities?

A. The sustainable, "br+sv" growth rates for each firm in the proxy group are summarized on Schedule WEA-5, with the underlying details being presented on Schedule WEA-6. For each firm, the expected retention ratio (b) was calculated based on Value Line's projected dividends and earnings per share. Likewise, each firm's expected earned rate of return (r) was computed by dividing projected earnings per share by projected net book value. Because Value Line reports end-of-year book values, an adjustment was incorporated to compute an average rate of return over the year, consistent with the theory underlying this approach to estimating investors' growth expectations. Meanwhile, the percent of common equity expected to be issued annually as new common stock (s) was equal to the product of the projected market-to-book ratio and growth in common shares outstanding, while the equity accretion rate (v) was computed as 1 minus the inverse of the projected market-to-book ratio.

Q. What cost of equity estimates were implied for the utility proxy group using the DCF model?

A. After combining the dividend yields and respective growth projections for each utility, the resulting cost of equity estimates are shown on Schedule WEA-5.

Q. In evaluating the results of the constant growth DCF model, is it appropriate to eliminate cost of equity estimates that fail to meet threshold tests of economic logic?

A. Yes. It is a basic economic principle that investors can be induced to hold more risky assets only if they expect to earn a return to compensate them for their risk bearing. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, must be considerably higher than the yield

offered by senior, long-term debt. Consistent with this principle, the DCF range for the proxy group of electric utilities must be adjusted to eliminate cost of equity estimates that fail fundamental tests of economic logic.

Q. Have similar tests been applied by regulators?

A. Yes. The FERC has noted that adjustments are justified where applications of the DCF approach produce illogical results. FERC evaluates DCF results against observable yields on long-term public utility debt and has recognized that it is appropriate to eliminate cost of equity estimates that do not sufficiently exceed this threshold. In a 2002 opinion establishing its current precedent for determining ROEs for electric utilities, for example, FERC concluded:

> An adjustment to this data is appropriate in the case of PG&E's low-end return of 8.42 percent, which is comparable to the average Moody's "A" grade public utility bond yield of 8.06 percent, for October 1999. Because investors cannot be expected to purchase stock if debt, which has less risk than stock, yields essentially the same return, this low-end return cannot be considered reliable in this case.[8]

More recently, in its October 2006 decision in *Kern River Gas Transmission Company*, FERC noted that:

> [T]he 7.31 and 7.32 percent costs of equity for El Paso and Williams found by the ALJ are only 110 and 122 basis points above that average yield for public utility debt.[9]

FERC upheld the opinion of Staff and the Administrative Law Judge that cost of equity estimates for these two proxy group companies "were too low to be credible."[10]

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[8] *Southern California Edison Company*, 92 FERC ¶ 61,070 (2000) at p. 22.

[9] *Kern River Gas Transmission Company*, Opinion No. 486, 117 FERC ¶ 61,077 at P 140 & n. 227 (2006).

[10] *Id.*

Q. What does this test of logic imply with respect to the DCF results for the utility proxy group?

A. The average bond rating associated with the firms in the utility proxy group is triple-B, with Moody's monthly yields on triple-B bonds averaging approximately 6.4 percent in January 2008.[11] As highlighted on Schedule WEA-5, six of the individual equity estimates for the firms in the utility proxy group exceeded this threshold by 120 basis points or less.[12] In light of the risk-return tradeoff principle and the test applied in *Kern River Gas Transmission Company*, it is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock, which is the riskiest of a utility's securities. As a result, these values provide little guidance as to the returns investors require from the common stock of an electric utility.

Q. Do you also recommend excluding cost of equity estimates at the high end of the range of DCF results?

A. Yes. As highlighted on Schedule WEA-5, I also eliminated cost of equity estimates at the upper end of the range of DCF results. Compared with the balance of the remaining estimates, these values are extreme outliers and should also be excluded in evaluating the results of the DCF model for the utility proxy group. This is also consistent with the approach and threshold adopted by FERC, which established that a 17.7 percent DCF estimate for an electric utility was "an extreme outlier" and should be disregarded.[13]

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[11] Moody's Investors Service, *Credit Perspectives* (Feb. 11, 2008).
[12] As highlighted on Schedule WEA-5, these DCF estimates ranged from 5.7 percent to 7.5 percent.
[13] *ISO New England, Inc.*, 109 FERC ¶ 61,147 at P 205 (2004).

Q. What cost of equity is implied by your DCF results for the utility proxy group?

A. As shown on Schedule WEA-5 and summarized in Table 1, below, after eliminating illogical low- and high-end values, application of the constant growth DCF model resulted in the following cost of equity estimates:

TABLE 2
DCF RESULTS – UTILITY PROXY GROUP

Growth Rate	Average Cost of Equity
IBES	11.3%
Value Line	10.4%
Reuters	10.6%
Zacks	10.9%
br+sv	9.2%

Q. What did you conclude based on the results of the DCF analyses for the utility proxy group?

A. Taken together, and considering the relative strengths and weaknesses associated with the alternative growth measures, I concluded that the constant growth DCF results for the utility proxy group implied a cost of equity of 10.7 percent.

Q. How else can the DCF model be applied to estimate the ROE for Avista?

A. Under the regulatory standards established by *Hope* and *Bluefield*, the salient criteria in establishing a meaningful benchmark to evaluate a fair rate of return is relative risk, not the particular business activity or degree of regulation. Utilities must compete for capital, not just against firms in their own industry, but with other investment opportunities of comparable risk. With regulation taking the place of competitive market forces, required returns for utilities should be in line with those of non-utility firms of comparable risk operating under the constraints of free competition. Consistent with this accepted regulatory

standard, I also applied the DCF model to a reference group of comparable risk companies in the non-utility sector of the economy.

Q. What criteria did you apply to evaluate investors' risk perceptions?

A. As discussed in Exhibit No.___(WEA-1T), my assessment of comparable risk relied on three objective benchmarks for the risks associated with common stocks -- Value Line's Safety Rank, Financial Strength rating, and beta. My comparable risk proxy group was composed of those U.S. companies followed by Value Line that 1) pay common dividends, 2) have a Safety Rank of "1", 2) have a Financial Strength Rating of "A" or above, and 3) have beta values of 0.90 or less,[14] and (4) have published data from IBES, Value Line, Reuters, and Zacks. Consistent with the development of my utility proxy group, I also eliminated firms with below-investment grade credit ratings.

Q. What were the results of your DCF analysis for the non-utility reference group?

A. As shown on Schedule WEA-7, I applied the DCF model to the non-utility proxy group in exactly the same manner described earlier for the utility proxy group.[15] As summarized in Table 3, below, after eliminating illogical low- and high-end values, application of the constant growth DCF model resulted in the following cost of equity estimates:

[14] This threshold corresponds to the average beta of 0.89 for the utility proxy group discussed earlier.
[15] Schedule WEA-8 contains the details underlying the calculation of the br+sv growth rates for the non-utility proxy group.

TABLE 4
DCF RESULTS – NON-UTILITY PROXY GROUP

Growth Rate	Average Cost of Equity
I/B/E/S	12.9%
Value Line	12.2%
Reuters	12.5%
Zacks	12.7%
br+sv	13.0%

Taken together, I concluded that the constant growth DCF results for the non-utility proxy group implied a cost of equity of 12.6 percent.

B. Capital Asset Pricing Model

Q Please describe the CAPM.

A. The CAPM is a theory of market equilibrium that measures risk using the beta coefficient. The CAPM assumes that investors are fully diversified, so the relevant risk of an individual asset (*e.g.*, common stock) is its volatility relative to the market as a whole. Beta reflects the tendency of a stock's price to follow changes in the market. A stock that tends to respond relatively less to market movements has a beta less than 1.00, while stocks that tend to move more than the market have betas greater than 1.00. The CAPM is mathematically expressed as:

$$R_j = R_f + \beta_j(R_m - R_f)$$

where: R_j = required rate of return for stock j;
R_f = risk-free rate;
R_m = expected return on the market portfolio; and,
β_j = beta, or systematic risk, for stock j.

Like the DCF model, the CAPM is an *ex-ante,* or forward-looking model based on expectations of the future. As a result, in order to produce a meaningful estimate of investors' required rate of return, the CAPM must be applied using estimates that reflect the expectations of actual investors in the market, not with backward-looking, historical data.

Q. How did you apply the CAPM to estimate the cost of equity?

A. Application of the CAPM to the utility proxy group based on a forward-looking estimate for investors' required rate of return from common stocks is presented on Schedule WEA-9. In order to capture the expectations of today's investors in current capital markets, the expected market rate of return was estimated by conducting a DCF analysis on the dividend paying firms in the S&P 500.

The dividend yield for each firm was obtained from Value Line, with the growth rate being equal to the average of the earnings growth projections for each firm compiled by IBES and Value Line, with each firm's dividend yield and growth rate being weighted by its proportionate share of total market value. Based on the weighted average of the projections for the 354 individual firms, current estimates imply an average growth rate over the next five years of 11.0 percent. Combining this average growth rate with a dividend yield of 2.2 percent results in a current cost of equity estimate for the market as a whole of approximately 13.2 percent. Subtracting a 4.4 percent risk-free rate based on the average yield on 20-year Treasury bonds for January 2008 produced a market equity risk premium of 8.8 percent. Multiplying this risk premium by the average Value Line beta of 0.89 for the utility proxy group, and then adding the resulting 7.8 percent risk premium to the average long-term Treasury bond yield, indicated an ROE of approximately 12.2 percent.

Q. What cost of equity was indicated for the non-utility proxy group based on this forward-looking application of the CAPM?

A. As shown on Schedule WEA-10, applying the forward-looking CAPM approach to the firms in the non-utility proxy group implied a cost of equity of 11.4 percent.

Q. What other CAPM analyses did you conduct to estimate the cost of equity?

A. I also applied the CAPM using risk premiums based on historical realized rates of return. This approach to estimating investors' equity risk premiums is premised on the notion that past experience heavily conditions future expectations. The essential assumption of the historical risk premium when used in the CAPM approach is that, while historical returns do not predict the future, investors form expectations of future stock returns based on observable debt yields and the historical experience of returns from common stock investments relative to debt investments.

While reference to historical data represents one way to apply the CAPM, these realized rates of return reflect, at best, an indirect estimate of investors' current requirements. The cost of capital is a forward-looking, or expectational concept that is focused on the perceptions of today's capital market investors. Past investment returns are frequently referenced and may provide a useful benchmark, but the only factors that actually determine the current required rate of return are investors' expectations for the future. As a result, forward-looking applications of the CAPM that look directly at investors' expectations in the capital markets are apt to provide a more meaningful guide to investors' required rate of return.

Q. What CAPM cost of equity is produced based on historical realized rates of return for stocks and long-term government bonds?

A. I applied the CAPM using data published by Ibbotson Associates, which is perhaps the most exhaustive and widely referenced annual study of realized rates of return. Application of the CAPM based on historical realized rates of return is presented in Schedule WEA-11. In their *2007 Yearbook, Valuation Edition*, Ibbotson Associates reported that, over

the period from 1926 through 2006, the arithmetic mean realized rate of return on the S&P 500 exceeded that on long-term government bonds by 7.1 percent.[16] Multiplying this historical market risk premium by the average Value Line beta of 0.89 produced an equity risk premium of 6.3 percent for the utility proxy group. As shown on Schedule WEA-11, adding this equity risk premium to the January 2008 average yield on 20-year Treasury bonds of 4.4 percent resulted in an implied cost of equity of 10.7 percent.

Q. What cost of equity was indicated for the non-utility proxy group based on the historical CAPM approach?

A. As shown on Schedule WEA-12, applying the historical CAPM approach to the firms in the non-utility proxy group implied a cost of equity of 10.0 percent.

C. Expected Earnings Method

Q. What other analyses did you conduct to estimate the cost of equity?

A. As I noted earlier, I also evaluated the ROE using the expected earnings method. Reference to rates of return available from alternative investments of comparable risk can provide an important benchmark in assessing the return necessary to assure confidence in the financial integrity of a firm and its ability to attract capital. This expected earnings approach is consistent with the economic underpinnings for a fair rate of return established by the Supreme Court in *Hope* and *Bluefield.* Moreover, it avoids the complexities and limitations of capital market methods and instead focuses on expected earned returns on book equity, which are more readily available to investors.

[16] Ibbotson Associates computes the equity risk premium by subtracting the income return (not the total return) on long-term Treasury bonds from the return on common stocks.

Q. What rates of return are indicated for utilities based on this approach?

A. With respect to expectations for electric utilities generally, the February 8, 2008 edition of Value Line reports that its analysts anticipate an average rate of return on common equity for the electric utility industry of 11.5 percent in 2008 and over its three-to-five year forecast horizon.[17] Meanwhile, Value Line expects that natural gas utilities will earn an average rate of return on common equity of 11.5 percent in 2008 and 12.0 percent over the years 2010 through 2012.[18]

For the firms in the utility proxy group specifically, the returns on common equity projected by Value Line over its three-to-five year forecast horizon are shown on Schedule WEA-13. Consistent with the rationale underlying the development of the br+sv growth rates, these year-end values were converted to average returns using the same adjustment factor discussed earlier. As shown on Schedule WEA-13, after eliminating potential outliers, Value Line's projections suggested an average ROE of 10.5 percent for the utility proxy group.

Q. What return on equity is indicated by the results of the expected earnings approach?

A. Based on the results discussed above, I concluded that the comparable earnings approach implies a fair rate of return on equity of 11.0 percent.

D. Summary of Quantitative Results

Q. Please summarize the results of your quantitative analyses.

A. The cost of equity estimates implied by my quantitative analyses are summarized in Table 4 below:

[17] The Value Line Investment Survey, at 1776 (Feb. 8, 2008).
[18] The Value Line Investment Survey, at 445 (Dec. 14, 2007).

TABLE 4
SUMMARY OF QUANTITATIVE RESULTS

	Cost of Equity Estimates	
Method	**Electric Utility Proxy Group**	**Non-Utility Proxy Group**
DCF	10.7%	12.6%
CAPM		
Forward-looking	12.2%	11.4%
Historical	10.7%	10.0%
Expected Earnings	11.0%	--