BEFORE THE WASHINGTON

UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION,

Complainant,

v.

AVISTA CORPORATION d/b/a AVISTA UTILITIES,

Respondent.

DOCKETS UE-220053, UG-220054, and UE-210854 (*Consolidated*)

RESPONSE TESTIMONY OF DAVID J. GARRETT ADDRESSING THE FULL MULTIPARTY SETTLEMENT STIPULATION ON BEHALF OF THE WASHINGTON STATE OFFICE OF ATTORNEY GENERAL PUBLIC COUNSEL UNIT

EXHIBIT DJG-1T

July 29, 2022

RESPONSE TESTIMONY OF DAVID J. GARRETT

ADDRESSING THE FULL MULTIPARTY SETTLEMENT

EXHIBIT DJG-1T

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LIST OF EXHIBITS

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is David J. Garrett. My business address is 101 Park Avenue, Suite 1125, Oklahoma City, Oklahoma 73102.

Q. By whom are you employed and in what capacity?

A. I am the managing member of Resolve Utility Consulting, LLC. I am an independent consultant specializing in public utility regulation.

Q. Please summarize your educational background and professional experience.

A. I received a B.B.A. degree with a major in Finance, an M.B.A. degree, and a J.D. degree from the University of Oklahoma. I worked in private legal practice for several years before working as assistant general counsel at the Oklahoma Corporation Commission in 2011. At the Oklahoma Corporation Commission, I worked in the Office of General Counsel in regulatory proceedings. In 2012, I worked for the Public Utility Division as a regulatory analyst providing testimony in regulatory proceedings. After leaving the Oklahoma Corporation Commission, I formed Resolve Utility Consulting PLLC, where I have represented numerous consumer groups and state agencies in utility regulatory proceedings, primarily in the areas of cost of capital and depreciation. I am a Certified Depreciation Professional with the Society of Depreciation Professionals. I am also a Certified Rate of Return Analyst with the Society of Utility and Regulatory Financial Analysts. A more

complete description of my qualifications and regulatory experience is included in my curriculum vitae.[1]

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of the Public Counsel Unit of the Washington Office of Attorney General (Public Counsel).

Q. Please describe the purpose of your testimony.

A. The purpose of my testimony is to present an independent analysis and opinion of the cost of equity capital and a prudent capital structure for Avista Corp. (Avista or the Company). I also address the authorized rate of return (ROR) proposed in the Full Multiparty Settlement Stipulation (Settlement) and recommend a fair ROR for the Washington Utilities and Transportation Commission's (UTC or Commission) consideration.[2] I also refer to the direct testimony of Company witnesses Adrien McKenzie regarding Avista's proposed return on equity (ROE) in its direct filing.[3]

II. EXECUTIVE SUMMARY

Q. Please summarize the key points of your testimony.

A. The key points of my testimony are as follows:

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[1] *See* David J. Garrett, Exh. DJG-2 (Curriculum Vitae of David J. Garrett).
[2] *See* Full Multiparty Settlement Stipulation (filed on June 28, 2022); *see also* Full Multiparty Settlement Stipulation Revised Joint Testimony, Exh. JT-1Tr (filed on July 8, 2022) (hereinafter Joint Testimony); Joint Testimony, Exh. JT-2r.
[3] *See* Direct Testimony of Adrien M. McKenzie, Exh. AMM-1T.

- The Commission should reject the authorized rate of return of 7.03 percent proposed in the Settlement. An objective cost of capital analysis shows that the Company's estimated market-based cost of capital is 6.46 percent. This cost of capital figure is based on the Company's proposed cost of debt in its in direct filing of 4.54 percent, as well as my proposed awarded ROE of 8.75 percent, and a ratemaking capital structure consisting of 54.4 percent debt and 45.6 percent equity.

- The legal standards governing this issue do not mandate that the awarded ROE equate to the result of a particular financial model, but rather that it be reasonable under the circumstances. I estimate the Company's cost of equity to be 7.9 percent, and in my opinion, it is not fair to award an ROE that is significantly above a regulated utility's cost of equity. However, I recommend the Commission award Avista an authorized ROE of 8.75 percent. Although 8.75 percent is still clearly above Avista's market-based cost of equity estimate, it represents a gradual yet meaningful move towards market-based cost of equity.

- I recommend the Commission reject Avista's proposed capital structure consisting of 51.5 percent debt and 48.5 percent equity. The average debt ratio of the same proxy group used to estimate Avista's cost of equity is 54.4 percent. The cost of equity estimated through the proxy group is necessarily related to the capital structures of the proxy group. Thus, it is reasonable to consider the average debt ratio of the proxy group when assessing a reasonable ratemaking structure. I recommend the Commission authorize a ratemaking capital structure for Avista consisting of 54.4 percent debt and 47 percent equity, which equates to the average capital structure of the proxy group.

My proposed ROE and capital structure for Avista would equate to an overall weighted average ROR of 6.46 percent, as shown in the following figure.

Figure 1: Weighted Average Rate of Return Proposal

Capital Component	Proposed Ratio	Cost Rate	Weighted Cost
Long Term Debt	54.4%	4.54%	2.47%
Common Equity	45.6%	8.75%	3.99%
Total	100.0%		6.46%

The details supporting my proposed adjustments are discussed further in my testimony.

A. Overview and Background

Q. Please explain the concept and significance of the cost of capital.

A. The term cost of capital, or Weighted Average Cost of Capital (WACC),[4] refers to the weighted average cost of the components within a company's capital structure, including the costs of both debt and equity. The three primary components of a company's WACC include the following:

1. Cost of Debt
2. Cost of Equity
3. Capital Structure

Determining the cost of debt is relatively straightforward. Interest payments on bonds are contractual, embedded costs that are generally calculated by dividing total interest payments by the book value of outstanding debt. Determining the cost of equity, on the other hand, is more complex. Unlike the known, contractual, and embedded cost of debt, there is no explicitly quantifiable "cost" of equity. Instead, the cost of equity must be estimated through various financial models. Cost of capital is expressed as a weighted average because it is based upon a company's relative levels of debt and equity, as defined by the particular capital structure of that company. The basic WACC equation used in regulatory proceedings is presented as follows:

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[4] The terms Cost of Capital and WACC are synonymous and used interchangeably throughout this testimony.

Equation 1: Weighted Average Cost of Capital

$$WACC = \left(\frac{D}{D+E}\right)C_D + \left(\frac{E}{D+E}\right)C_E$$

where: $WACC$ = *weighted average cost of capital*
D = *book value of debt*
C_D = *embedded cost of debt capital*
E = *book value of equity*
C_E = *market-based cost of equity capital*

Companies in the competitive market often use their WACC as the discount rate to determine the value of capital projects, so it is important that this figure be estimated accurately.

Q. How do experts and regulators typically assess the ROEs awarded to utilities and the corresponding opportunity for shareholders?

A. Investors, company managers, and academics around the world have used models such as the Capital Asset Pricing Model (CAPM) and Discounted Cash Flow (DCF) to closely estimate cost of equity for many years, and weigh the results achieved against the results from proxy groups. Each of these concepts will be discussed in more detail later in my testimony.

Q. How do your analyses and recommendations consider equity as that term is used in the multiyear rate plan statute in RCW 80.28.425(1)?

A. It is important for the Commission to set an authorized ROR that is fair to both customers and shareholders. In my opinion, the authorized ROR proposed in the Settlement is notably greater than a reasonable estimate of Avista's market based Cost of Capital. The ROR proposed in my testimony is closer to Avista's actual Cost of Capital, which will serve to reduce the excess transfer of wealth from customers to

shareholders, relative to the ROR proposed in the Settlement. An excess authorized ROR would negatively impact all customers, but it would disproportionately impact low-income customers–those whose utility expenses represent a larger portion of their household operating budgets.

B. Recommendation

Q. Please summarize your ROE recommendation to the Commission.

A. Pursuant to the legal and technical standards guiding this issue, the awarded ROE should be based on, or reflective of, the utility's cost of equity. Avista's estimated cost of equity is about 7.9 percent, when using reasonable inputs. However, legal standards do not mandate the awarded ROE be set exactly equal to the cost of equity. Rather, in *Federal Power Commission v. Hope Natural Gas Co*., the U.S. Supreme Court found that, although the awarded return should be based on a utility's cost of equity, the "end result" should be just and reasonable.[5] Therefore, I recommend the Commission award Avista an ROE of 8.75 percent. In my opinion, an awarded ROE that is set too far above a regulated utility's cost of equity (which in this case is only about 7.9 percent) runs the risk of being at odds with the standards set forth in *Hope*[6] and *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*.[7] In other words, setting the awarded ROE far above the cost of equity

[5] *See Federal Power Comm'n v. Hope Nat. Gas Co*., 320 U.S. 591, 603 (1944). Here, the Court states that it is not mandating the various permissible ways in which the rate of return may be determined, but instead indicates that the end result should be just and reasonable. This is sometimes called the "end result" doctrine.
[6] *Id*.
[7] *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n of W. Va.*, 262 U.S. 679, 692–93 (1923).

results in an excess transfer of wealth from customers to the utility, which is never appropriate.

Q. If 8.75 percent exceeds Avista's actual cost of equity and still, in your opinion, results in an excessive wealth transfer from shareholders to ratepayers, how can it still be considered a just and reasonable result?

A. The ratemaking concept of "gradualism," though usually applied from ratepayers' standpoint to minimize rate shock, could also be applied illustratively to shareholders. An awarded return as low as 7.9 percent would arguably represent a stark movement in the awarded ROE, considering that Avista's current authorized ROE is 9.4 percent. While generally reducing awarded ROEs for utilities would move awarded returns closer to market-based costs and so reduce the excess transfer of wealth from ratepayers to shareholders, I believe it is advisable to do so gradually. One of the primary reasons Avista's actual cost of equity is so low is because Avista is a relatively low-risk investment. In general, utility stocks are low-risk investments because movements in their stock prices are not volatile. If the Commission were to make a significant, sudden change in the awarded ROE anticipated by regulatory stakeholders, it could have the undesirable effect of notably increasing the Company's risk profile, which could be in contravention to the *Hope* Court's "end result" doctrine. An awarded ROE of 8.75 percent represents a good balance between the Supreme Court's indications that awarded ROEs should be based on cost, while also recognizing that the end result must be just and reasonable under the circumstances.

Q. Please summarize your recommendation regarding capital structure.

A. Unlike competitive companies, which have a natural financial incentive to issue sufficient amounts of debt to maximize profits, regulated utilities do not have the same incentive to issue sufficient amounts of debt. The average capital structure of the same proxy group used to estimate cost of equity consists of 54.4 percent debt.[8] I recommend the Commission authorize a ratemaking capital structure for Avista consisting of 54.4 percent debt and 45.6 percent equity, which equates to the average capital structure of the proxy group.

C. Response to the Settlement

Q. Please describe the ROR proposed in the Settlement.

A. The Settlement proposes an authorized ROR of 7.03 percent. The Settlement does not specifically state the cost of debt, cost of equity, and capital structure. To put this proposed ROR in perspective, if we assume the Company's filed cost of debt (4.45 percent) and capital structure (51.5 percent debt and 48.5 percent equity), an overall ROR of 7.03 percent implies an authorized ROE of about 9.7 percent, as illustrated in the following table.

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[8] *See* Garrett, Exh. DJG-15 (Proxy Company Debt Ratios).

Figure 2: Implied Cost of Capital Components in Settlement for Comparison

Capital Component	Proposed Ratio	Cost Rate	Weighted Cost
Long Term Debt	51.5%	4.54%	2.34%
Common Equity	48.5%	9.68%	4.69%
Total	100.0%		7.03%

As shown in this figure, the implied authorized ROE based on the other assumed capital components is about 9.68 percent, which is notably higher than my cost of equity estimate of 7.9 percent for the Company.

Q. The Settlement also suggests that an authorized ROE of 9.4 percent would be reasonable. Do you agree?

A. No. A footnote in the Settlement suggests that a 7.03 percent ROR based on a 9.4 percent ROE, a 4.8 percent cost of debt, and the same capital structure outline above "would produce a result within the zone of reasonableness."[9] As discussed in my testimony, a reasonable estimate of Avista's current market-based cost of equity is 7.9 percent. In my opinion, an authorized ROE greater than the 8.75 percent ROE I recommend would be unreasonable.

III. LEGAL STANDARDS AND THE AWARDED RETURN

Q. Discuss the legal standards governing the awarded ROR on capital investments for regulated utilities.

[9] *See* Joint Testimony, Exh JT-1Tr at 9, fn.8.

A. In *Wilcox v. Consolidated Gas Co. of New York*, the U.S. Supreme Court first addressed the meaning of a fair ROR for public utilities.[10] The Court found that "the amount of risk in the business is a most important factor" in determining the appropriate allowed ROR.[11] As referenced earlier, in two subsequent landmark cases, the Court set forth the standards by which public utilities are allowed to earn a return on capital investments. First, in *Bluefield*, the Court held:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public. . . but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.[12]

Then, in *Hope*, the Court expanded on the guidelines set forth in *Bluefield* and stated:

> From the investor or company point of view it is important that there be enough revenue not only for operating expenses <u>but also for the capital costs of the business.</u> These include service on the debt and dividends on the stock. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.[13]

The cost of capital models I have employed in this case are designed to be in accordance with the foregoing legal standards.

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[10] *Wilcox v. Consolidated Gas Co. of N.Y.*, 212 U.S. 19 (1909).
[11] *Id.* at 48.
[12] *Bluefield* at 692–93.
[13] *Federal Power Comm'n v. Hope Nat. Gas Co*., 320 U.S. 591, 603 (1944) (emphasis added) (internal citations omitted).

Q. Is it important that the awarded rate of return be based on the Company's actual cost of capital?

A. Yes. The U.S. Supreme Court in *Hope* makes it clear that the allowed return should be based on the actual cost of capital.[14] Moreover, the awarded return must also be fair, just, and reasonable under the circumstances of each case. Among the circumstances that must be considered in each case are the broad economic and financial impacts to the cost of equity and awarded return caused by market forces and other factors. As a starting point, however, scholars agree that the actual cost of capital must be considered:

> Since by definition the cost of capital of a regulated firm represents precisely the expected return that investors could anticipate from other investments while bearing no more or less risk, and since investors will not provide capital unless the investment is expected to yield its opportunity cost of capital, the correspondence of the definition of the cost of capital with the court's definition of legally required earnings appears clear.[15]

The models I have employed in this case closely estimate the Company's true cost of equity. If the Commission sets the awarded return based on my lower and more reasonable ROR, it will comply better with the U.S. Supreme Court's standards, allow the Company to maintain its financial integrity, and achieve reasonable returns for its investors. On the other hand, if the Commission sets the allowed ROR much

[14] The term "cost of capital" includes both debt and equity. The overall awarded rate of return should be based on the utility's cost of capital, which the awarded ROE should be based in the utility's cost of equity.
[15] Lawrence Kolbe, et al., *The Cost of Capital: Estimating the Rate of Return for Public Utilities* 21 (The MIT Press, 1984).

higher than the true cost of capital, as requested by Avista, it will result in an inappropriate transfer of wealth from ratepayers to shareholders.[16]

Q. What does this legal standard mean for determining the awarded return and the cost of capital?

A. The awarded return and the cost of capital are different but related concepts. On one hand, the legal and technical standards encompassing this issue require that the awarded return reflect the true cost of capital. Yet on the other hand, the two concepts differ in that the legal standards do not mandate that awarded returns exactly match the cost of capital. Instead, awarded returns are set through the regulatory process and may be influenced by various factors other than objective market drivers. By contrast, the cost of capital should be evaluated objectively and be closely tied to economic realities, such as stock prices, dividends, growth rates, and, most importantly, risk. The cost of capital can be estimated by financial models used by firms, investors, and academics around the world for decades. The problem is, with respect to regulated utilities, there has been a trend in which awarded returns fail to closely track with market-based cost of capital, as further discussed below. To the extent this occurs, the results are detrimental to ratepayers and the state's economy.

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[16] Roger A. Morin, *New Regulatory Finance* 23–24 (Pub. Utils. Reports, 2006) (1994) ("[I]f the allowed rate of return is greater than the cost of capital, capital investments are undertaken and investors' opportunity costs are more than achieved. Any excess earnings over and above those required to service debt capital accrue to the equity holders, and the stock price increases. In this case, the wealth transfer occurs from ratepayers to shareholders.").

Q. Please describe the economic impact that occurs when the awarded return strays too far from the U.S. Supreme Court's time-honored cost of equity standards.

A. When the awarded ROE is set far above the cost of equity, it runs the risk of violating the U.S. Supreme Court's standards. This has the effect of diverting dollars from ratepayers for their internal or business uses that would otherwise support the local or state economy to the utility's shareholders at large. Moreover, establishing an awarded return that far exceeds true cost of capital effectively prevents the awarded returns from changing along with economic conditions. This is especially true given the fact that regulators tend to be influenced by the awarded returns in other jurisdictions, regardless of the various unknown factors influencing those awarded returns. If regulators rely too heavily on the awarded returns from other jurisdictions, they can create a cycle over time that bears little relation to the market-based cost of equity. In fact, this is exactly what we have observed since 1990. This is yet another reason why it is crucial for regulators to put more emphasis on the target utility's actual cost of equity than on the awarded returns from other jurisdictions. Awarded returns may be influenced by settlements and other political factors not based on true market conditions. In contrast, the true cost of equity as estimated through objective models is not influenced by these factors but is instead driven by market-based factors.

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Q. Can you illustrate and provide a comparison of the relationship between awarded utility returns and market cost of equity since 1990?

A. Yes. As shown in the figure below, awarded returns for electric and gas utilities have been above the average required market return since 1990.[17] Because utility stocks are consistently far less risky than the average stock in the marketplace, the cost of equity for utility companies is less than the market cost of equity.

To illustrate this fact, the graph in the figure below shows three trend lines. The top two lines are the average annual awarded returns since 1990 for U.S. regulated electric and gas utilities. The bottom line is the required market return over the same period. As discussed in more detail later in my testimony, the required market return is essentially the return that investors would require if they invested in the entire market and, as such, the required market return is essentially the cost of equity of the entire market. Since it is undisputed that utility stocks are less risky than the average stock in the market, then the utilities' cost of equity must be less than the market cost of equity.[18] Thus, awarded returns (the solid line) should generally be below the market cost of equity (the dotted line), since awarded returns are supposed to be based on true cost of equity.

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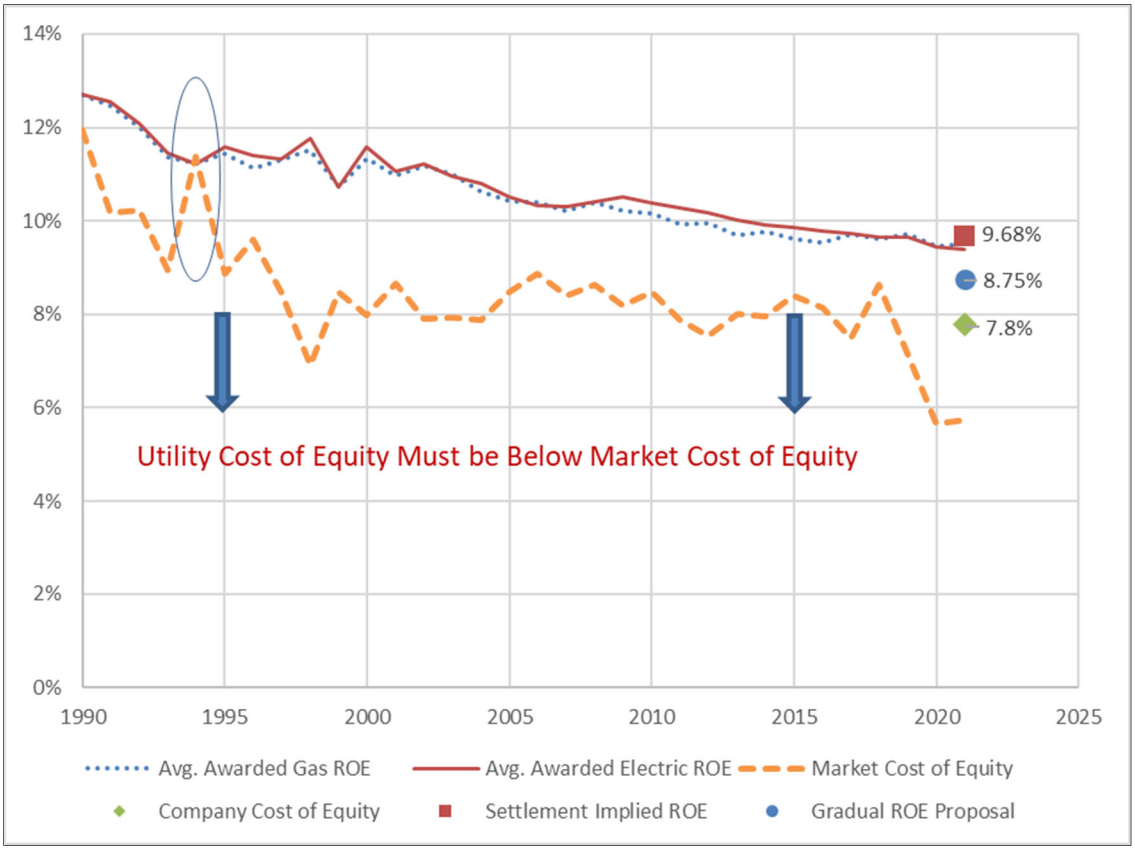
[17] *See* Garrett, Exh. DJG-14 (Market Cost of Equity vs. Awarded Returns).
[18] This fact can be objectively measured through a term called "beta," as discussed later in the testimony. Utility betas are less than one, which means utility stocks are less risky than the "average" stock in the market.

Figure 3: Awarded ROEs vs. Market Cost of Equity



Notwithstanding the data in this graph, awarded ROEs have been consistently above the market cost of equity for many years. Also as shown in this graph, since 1990, there was only one year in which the average awarded ROE was below the market cost of equity. In 1994, regulators awarded ROEs that were the closest to utilities' market-based cost of equity. In my opinion, when awarded ROEs for utilities are below the market cost of equity, regulators more closely conform to the standards set forth by *Hope* and *Bluefield* and minimize the excess wealth transfer from ratepayers to shareholders.

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Q. Have other analysts commented on this national phenomenon of awarded ROEs exceeding market-based cost equity for utilities?

A. Yes. In an article published in Public Utilities Fortnightly, Steve Huntoon observed that even though utility stocks are less risky than the stocks of competitive industries, utility stocks have nonetheless outperformed the broader market.[19] Specifically, the author notes the following three points which lead to a problematic conclusion:

1. Jack Bogle, the founder of Vanguard Group and a Wall Street legend, provides rigorous analysis that the long-term total return for the broader market will be around 7 percent going forward. Another Wall Street legend, Professor Burton Malkiel, corroborates that 7 percent in the latest edition of his seminal work, A Random Walk Down Wall Street.

2. Institutions like pension funds are validating the first point by piling on risky investments to try and get to a 7.5 percent total return, as reported by the Wall Street Journal.

3. Utilities are being granted returns on equity around 10 percent.[20]

Other scholars have also observed that awarded ROEs have not appropriately tracked with declining interest rates over the years, and that excessive awarded ROEs have negative economic impacts. In a white paper issued in 2017, Charles S. Griffey stated:

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[19] Steve Huntoon, *Nice Work If you can Get It*, Pub. Utils. Fortnightly (Aug. 2016).
[20] *Id*.

> The "risk premium" being granted to utility shareholders is now higher than it has ever been over the last 35 years. Excessive utility ROEs are detrimental to utility customers and the economy as a whole. From a societal standpoint, granting ROEs that are higher than necessary to attract investment creates an inefficient allocation of capital, diverting available funds away from more efficient investments. From the utility customer perspective, if a utility's awarded and/or achieved ROE is higher than necessary to attract capital, customers pay higher rates without receiving any corresponding benefit.[21]

Because awarded ROEs are often based primarily on a comparison with other awarded ROEs around the country, the average awarded returns effectively fail to adapt to true market conditions, and regulators seem reluctant to deviate from the average. Once utilities and regulatory commissions become accustomed to awarding rates of return higher than market conditions actually require, this trend becomes difficult to reverse. The fact is, utility stocks are less risky than the average stock in the market, and thus, awarded ROEs should be less than the expected return on the market. However, that is rarely the case. My proposal assists the Commission in "see[ing] the gap between allowed returns and cost of capital,"[22] and reconciling this issue in an equitable manner.

Q. Summarize the legal standards governing the awarded ROE issue.

A. The Commission should strive to move the awarded return to a level more closely aligned with the Company's actual, market-derived cost of capital while keeping in mind the following two legal principles outlined below.

[21] Charles S. Griffey, *When 'What Goes Up' Does Not Come Down: Recent Trends in Utility Returns,* White Paper (Feb. 2017).
[22] Leonard Hyman & William Tilles, *Don't Cry for Utility Shareholders, America*, Pub. Utils. Fortnightly (Oct. 2016).

1. Risk is the most important factor when determining the awarded return. The awarded return should be commensurate with those returns on investments of corresponding risk.

The legal standards articulated in *Hope* and *Bluefield* demonstrate that the U.S. Supreme Court understands one of the most basic, fundamental concepts in financial theory: the more (or less) risk an investor assumes, the more (or less) return the investor requires. Since utility stocks are low risk, the return required by equity investors should be relatively low. I have used financial models to closely estimate the Company's cost of equity, and these financial models account for risk. The cost of equity models confirm the industry experiences relatively low levels of risk by producing relatively low cost of equity results. In turn, the awarded ROE in this case should reflect Avista's relatively low market risk.

2. The awarded return should be sufficient to assure financial soundness and integrity under efficient management.

Because awarded returns in the regulatory environment have not closely tracked market-based trends and commensurate risk, utility companies have been able to remain more than financially sound, perhaps despite management inefficiencies. In fact, the transfer of wealth from ratepayers to shareholders has been so far removed from actual cost-based drivers that a utility could remain financially sound even under relatively inefficient management. Therefore, regulatory commissions should strive to set utilities' returns based on actual market conditions to promote prudent and efficient management and minimize economic waste.

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IV. GENERAL CONCEPTS AND METHODOLOGY

Q. Discuss your approach to estimating the cost of equity in this case.

A. While a competitive firm must estimate its own cost of capital to assess the profitability of competing capital projects, regulators determine a utility's cost of capital to establish a fair ROR. The legal standards set forth above do not include specific guidelines regarding the models that must be used to estimate the cost of equity for utilities. Over the years, however, regulatory commissions have consistently relied on several models. The models I have employed in this case have been the two most widely used and accepted in regulatory proceedings for many years. The specific inputs and calculations for these models are described in more detail below.

Q. Please explain why you used multiple models to estimate the cost of equity.

A. These models attempt to measure the return on equity required by investors by estimating several different inputs. It is preferable to use multiple models because the results of any one model may contain a degree of imprecision, especially depending on the reliability of the inputs used at the time of conducting the model. By using multiple models, the analyst can compare the results of the models and look for outlying results and inconsistencies. Likewise, if multiple models produce a similar result, it may indicate a narrower range for the cost of equity estimate.

Q. Please discuss the benefits of choosing a proxy group of companies in conducting cost of capital analyses.

A. The cost of equity models in this case can be used to estimate the cost of capital of any individual, publicly traded company. There are advantages, however, to

conducting cost of capital analysis on a proxy group of companies that are comparable to the target company. First, it is better to assess the financial soundness of a utility by comparing it to a group of other financially sound utilities. Second, using a proxy group provides more reliability and confidence in the overall results because there is a larger sample size. Finally, the use of a proxy group is often a pure necessity when the target company is a subsidiary that is not publicly traded, as is the case here. This is because the financial models used to estimate the cost of equity require information from publicly traded firms, such as stock prices and dividends.

Q. Describe the proxy group you selected in this case.

A. In this case, I chose to use the same proxy group used by witness McKenzie. There could be reasonable arguments made for the inclusion or exclusion of a particular company in a proxy group; however, the cost of equity results are influenced far more by the underlying assumptions and inputs to the various financial models than the composition of the proxy group.[23] By using the same proxy group, we can remove a relatively insignificant variable from the equation and focus on the primary factors driving Avista's cost of equity estimate.

V. RISK AND RETURN CONCEPTS

Q. Discuss the general relationship between risk and return.

A. Risk is among the most important factors for the Commission to consider when determining the allowed return. Thus, it is necessary to understand the relationship between risk and return. There is a direct relationship between risk and return: the

[23] *See* Garrett, Exh. DJG-3 (Proxy Group Summary).

more (or less) risk an investor assumes, the larger (or smaller) return the investor will demand. There are two primary types of risk: firm-specific risk and market risk. Firm-specific risk affects individual companies, while market risk affects all companies in the market to varying degrees.

Q. Discuss the differences between firm-specific risk and market risk.

A. Firm-specific risk affects individual companies, rather than the entire market. For example, a competitive firm might overestimate customer demand for a new product, resulting in reduced sales revenue. This is an example of a firm-specific risk called "project risk."[24] There are several other types of firm-specific risks, including: (1) "financial risk" – the risk that equity investors of leveraged firms face as residual claimants on earnings; (2) "default risk" – the risk that a firm will default on its debt securities; and (3) "business risk" – which encompasses all other operating and managerial factors that may result in investors realizing less than their expected return in that particular company. While firm-specific risk affects individual companies, market risk affects all companies in the market to varying degrees. Examples of market risk include interest rate risk, inflation risk, and the risk of major socio-economic events. When there are changes in these risk factors, they affect all firms in the market to some extent.[25]

Analysis of the U.S. market in 2001 provides a good example for contrasting firm-specific risk and market risk. During that year, Enron Corp.'s stock fell from $80

[24] Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 62–63 (3rd ed., John Wiley & Sons, 2012).
[25] *See* Zvi Bodie et al., *Essentials of Investments* 149 (9th ed., McGraw-Hill/Irwin 2013).

per share to its low when the company filed bankruptcy at the end of the year. If an investor's portfolio had held only Enron stock at the beginning of 2001, this irrational investor would have lost the entire investment by the end of the year due to assuming the full exposure of Enron's firm-specific risk (in that case, imprudent management). On the other hand, a rational, diversified investor who invested the same amount of capital in a portfolio holding every stock in the S&P 500 would have had a much different result that year. The rational investor would have been relatively unaffected by the fall of Enron because their portfolio included about 499 other stocks. Each of those stocks, however, would have been affected by various market risk factors that occurred that year. Thus, the rational investor would have incurred a relatively minor loss due to market risk factors, while the irrational investor would have lost everything due to firm-specific risk factors.

Q. Can equity investors reasonably minimize firm-specific risk?

A. Yes. A fundamental concept in finance is that firm-specific risk can be eliminated through diversification.[26] If someone irrationally invested all of his funds in one firm, he would be exposed to all the firm-specific risk and the market risk inherent in that single firm. Rational investors, however, are risk-averse and seek to eliminate risk they can control. Investors can eliminate firm-specific risk by adding more stocks to their portfolio through a process called "diversification." There are two reasons why diversification eliminates firm-specific risk.

[26] *See* John R. Graham, et al., *Corporate Finance: Linking Theory to What Companies Do* 179–80 (3rd ed., South Western Cengage Learning, 2010).

First, each stock in a diversified portfolio represents a much smaller percentage of the overall portfolio than it would in a portfolio of just one or a few stocks. Thus, any firm-specific action that changes the stock price of one stock in the diversified portfolio will have only a small impact on the entire portfolio.[27]

The second reason why diversification eliminates firm-specific risk is that the effects of firm-specific actions on stock prices can be either positive or negative for each stock. Thus, in large diversified portfolios, the net effect of these positive and negative firm-specific risk factors will be essentially zero and will not affect the value of the overall portfolio.[28] Firm-specific risk is also called "diversifiable risk" because it can be easily eliminated through diversification.

Q. Is it well-known and accepted that, because firm-specific risk can be easily eliminated through diversification, the market does not reward such risk through higher returns?

A. Yes. Because investors eliminate firm-specific risk through diversification, they know they cannot expect a higher return for assuming the firm-specific risk in any one company. Thus, the risks associated with an individual firm's operations are not rewarded by the market. In fact, firm-specific risk is also called "unrewarded" risk for this reason. Market risk, on the other hand, cannot be eliminated through diversification. Because market risk cannot be eliminated through diversification, investors expect a return for assuming this type of risk. Market risk is also called

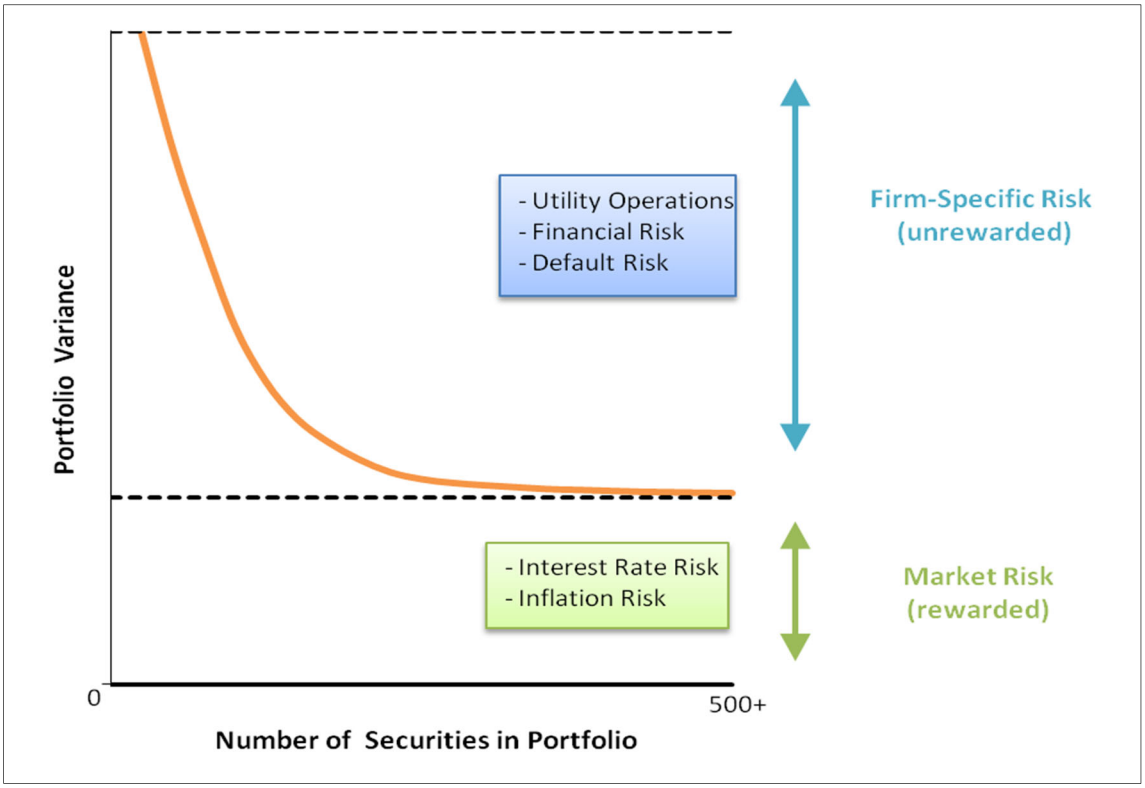
[27] *See* Damodaran, supra, at 64.
[28] *Id.*

"systematic risk." Scholars recognize the fact that market risk, or systematic risk, is the only type of risk for which investors expect a return for bearing:

> If investors can cheaply eliminate some risks through diversification, then we should not expect a security to earn higher returns for risks that can be eliminated through diversification. Investors can expect compensation only for bearing systematic risk (i.e., risk that cannot be diversified away).[29]

These important concepts are illustrated in the figure below. Some form of this figure is found in many financial textbooks.

Figure 4: Effects of Portfolio Diversification



[29] *See* Graham, supra, at 180 (emphasis added).

This figure shows that as stocks are added to a portfolio, the amount of firm-specific risk is reduced until it is essentially eliminated. No matter how many stocks are added, however, there remains a certain level of fixed market risk. The level of market risk will vary from firm to firm. Market risk is the only type of risk that is rewarded by the market and is thus the primary type of risk the Commission should consider when determining the allowed return.

Q. Describe how market risk is measured.

A. Investors who want to eliminate firm-specific risk must hold a fully diversified portfolio. To determine the amount of risk that a single stock adds to the overall market portfolio, investors measure the covariance between a single stock and the market portfolio. The result of this calculation is called "beta."[30] Beta represents the sensitivity of a given security to the market as a whole. The market portfolio of all stocks has a beta equal to one. Stocks with betas greater than 1.0 are relatively more sensitive to market risk than the average stock. For example, if the market increases (or decreases) by 1.0 percent, a stock with a beta of 1.5 will, on average, increase (or decrease) by 1.5 percent. In contrast, stocks with betas of less than 1.0 are less sensitive to market risk, such that if the market increases (or decreases) by 1.0 percent, a stock with a beta of 0.5 will, on average, only increase (or decrease) by 0.5 percent. Thus, stocks with low betas are relatively insulated from market conditions.

[30] *See Id.* at 180–81.

The beta term is used in the CAPM to estimate the cost of equity, which is discussed in more detail later.[31]

Q. Are public utilities characterized as defensive firms that have low betas, have low market risk, and are relatively insulated from overall market conditions?

A. Yes. Although market risk affects all firms in the market, it affects different firms to varying degrees. Firms with high betas are affected more than firms with low betas, which is why firms with high betas are riskier. Stocks with betas greater than one are generally known as "cyclical stocks." Firms in cyclical industries are sensitive to recurring patterns of recession and recovery known as the "business cycle."[32] Thus, cyclical firms are exposed to a greater level of market risk. Securities with betas less than one, on the other hand, are known as "defensive stocks." Companies in defensive industries, such as public utility companies, "will have low betas and performance that is comparatively unaffected by overall market conditions."[33] In fact, financial textbooks often use utility companies as prime examples of low-risk, defensive firms.[34] The figure below compares the betas of several industries and illustrates that the utility industry is one of the least risky industries in the U.S. market.[35]

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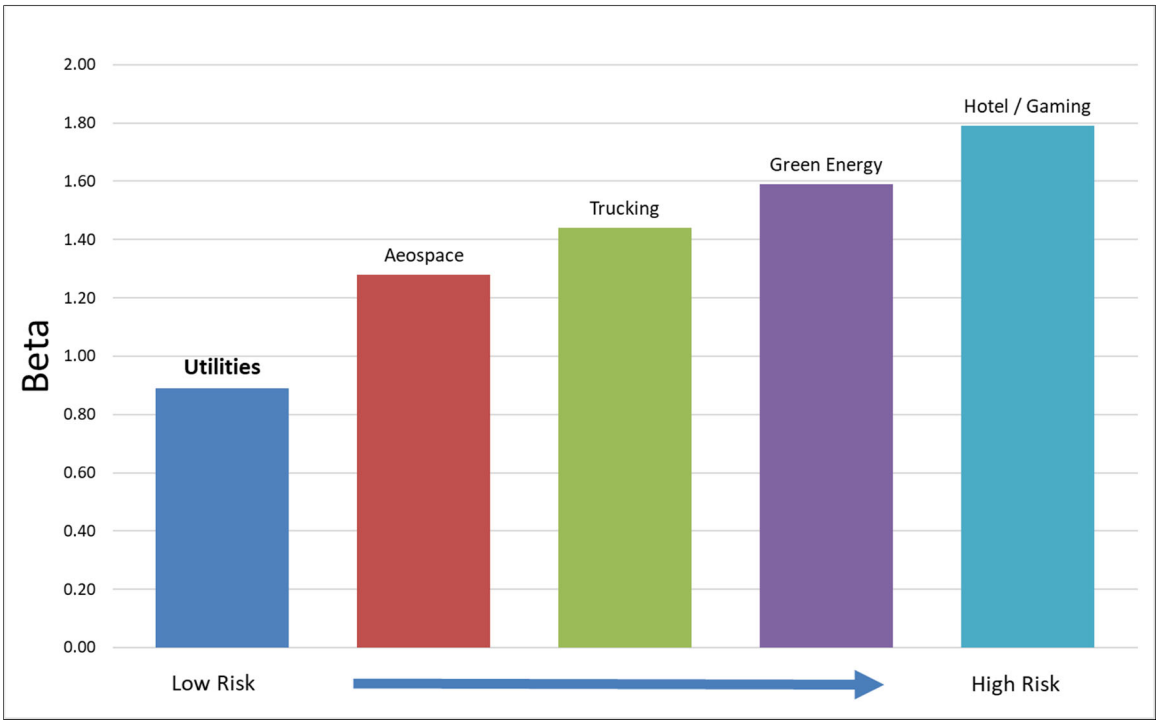
[31] Though it will be discussed in more detail later, Garrett, Exhibit DJG-9 shows that the average beta of the proxy group was less than 1.0. This confirms the well-known concept that utilities are relatively low-risk firms.
[32] *See* Bodie, supra, at 382.
[33] *Id.* at 383.
[34] *See e.g., Id.* at 382; *see also* Damodaran, supra, at 196.
[35] *See* Betas by Sector (US) at http://pages.stern.nyu.edu/~adamodar/. The exact beta calculations are not as important as illustrating the well-known fact that utilities are low-risk companies. The fact that the utility industry is one of the lowest risk industries in the country should not change from year to year.

Figure 5: Beta by Industry



The fact that utilities are defensive firms that are exposed to little market risk is beneficial to society. When the business cycle enters a recession, consumers can be assured that their utility companies will be able to maintain normal business operations and provide safe and reliable service under prudent management. Likewise, utility investors can be confident that utility stock prices will not fluctuate widely. So, while it is preferable for utilities to be defensive firms that experience little market risk and relatively insulated from market conditions, this should also be appropriately reflected in Avista's awarded return.

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VI. DISCOUNTED CASH FLOW ANALYSIS

Q. Describe the DCF Model.

A. The DCF Model is based on a fundamental financial model called the "dividend discount model," which maintains that the value of a security is equal to the present value of the future cash flows it generates. Cash flows from common stock are paid to investors in the form of dividends. There are several variations of the DCF Model. These versions, along with other formulas and theories related to the DCF Model, are discussed in more detail in Exhibit DJG-17. For this case, I chose to use the Quarterly Approximation DCF Model because it accounts for the quarterly growth of dividends (as opposed to annual growth). I also used this variation of the DCF Model in the interest of reasonableness, as it produces the highest cost of equity estimates compared with the other DCF Model variations.

Q. Describe the inputs to the DCF Model.

A. There are three primary inputs in the DCF Model: (1) stock price, (2) dividend, and (3) the long-term growth rate. The stock prices and dividends are known inputs based on recorded data, while the growth rate projection must be estimated. The formula is presented as follows:

Equation 2: Quarterly Approximation Discounted Cash Flow Model

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

where: K = *discount rate / required return*
d_0 = *current quarterly dividend per share*
P_0 = *stock price*
g = *expected growth rate of future dividends*

I discuss each of these inputs separately below.

D. Stock Price

Q. How did you determine the stock price input of the DCF Model?

A. For the stock price (P_0), I used a 30-day average of stock prices for each company in the proxy group.[36] Analysts sometimes rely on average stock prices for longer periods (e.g., 60, 90, or 180 days). According to the efficient market hypothesis, however, markets reflect all relevant information available at a particular time, and prices adjust instantaneously to the arrival of new information.[37] Past stock prices, in essence, reflect outdated information. The DCF Model used in utility rate cases is a derivation of the dividend discount model, which is used to determine the current value of an asset. Thus, according to the dividend discount model and the efficient market hypothesis, the value for the "P_0" term in the DCF Model should technically be the current stock price, rather than an average.

Q. Why did you use a 30-day average for the current stock price input?

A. Using a short-term average of stock prices for the current stock price input adheres to market efficiency principles while avoiding any irregularities that may arise from using a single current stock price. In the context of a utility rate proceeding, there is a significant length of time from when an application is filed and testimony is due. Choosing a current stock price for one particular day could raise a separate issue concerning which day was chosen to be used in the analysis. In addition, a single stock price on a particular day may be unusually high or low. It is arguably ill-advised

[36] *See* Garrett, Exh. DJG-4 (DCF Stock and Index Prices).
[37] *See* Fama, supra, at 383.

to use a single stock price in a model that is ultimately used to set rates for several years, especially if a stock is experiencing some volatility. Thus, it is preferable to use a short-term average of stock prices, which represents a good balance between adhering to well-established principles of market efficiency while avoiding any unnecessary contentions that may arise from using a single stock price on a given day. The stock prices I used in my DCF analysis are based on 30-day averages of adjusted closing stock prices for each company in the proxy group.[38]

E. Dividend

Q. Describe how you determined the dividend input of the DCF Model.

A. The dividend term in the Quarterly Approximation DCF Model is the current quarterly dividend per share (d_0). I obtained the most recent quarterly dividend paid for each proxy company.[39] The Quarterly Approximation DCF Model assumes that the company increases its dividend payments each quarter. Thus, the model assumes that each quarterly dividend is greater than the previous one by $(1 + g)^{0.25}$. This expression could be described as the dividend quarterly growth rate, where the term "g" is the growth rate and the exponential term "0.25" signifies one quarter of the year.

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[38] *See* Garrett, Exh. DJG-4 (DCF Stock and Index Prices). The prices reported are adjusted closing prices, rather than actual closing prices which are ideal for analyzing historical stock prices. The adjusted price provides an accurate representation of the firm's equity value beyond the mere market price because it accounts for stock splits and dividends.

[39] *See* Garrett, Exh. DJG-5 (DCF Dividend Yields – Nasdaq Dividend History).

Q. Does the Quarterly Approximation DCF Model result in the highest cost of equity in this case relative to other DCF Models, all else held constant?

A. Yes. The Quarterly Approximation DCF Model I employed in this case results in a higher DCF cost of equity estimate than the annual or semi-annual DCF Models due to the quarterly compounding of dividends inherent in the model. In essence, the Quarterly Approximation DCF Model I used results in the highest cost of equity estimate, all else held constant.

F. Growth Rate

Q. Summarize the growth rate input in the DCF Model.

A. The most critical input in the DCF Model is the growth rate. Unlike the stock price and dividend inputs, the growth rate input (g) must be estimated. As a result, the growth rate is often the most contentious DCF input in utility rate cases. The DCF model used in this case is based on the constant growth valuation model. Under this model, a stock is valued by the present value of its future cash flows in the form of dividends. Before future cash flows are discounted by the cost of equity, however, they must be "grown" into the future by a long-term growth rate. As stated above, one of the inherent assumptions of this model is that these cash flows in the form of dividends grow at a constant rate forever. Thus, the growth rate term in the constant growth DCF model is often called the "constant," "stable," or "terminal" growth rate. For young, high-growth firms, estimating the growth rate to be used in the model can be especially difficult, and may require the use of multi-stage growth models. For mature, low-growth firms such as utilities, however, estimating the terminal growth rate is more transparent. The growth term of the DCF Model is one of the most

important, yet apparently most misunderstood, aspects of cost of equity estimations in utility regulatory proceedings. Therefore, I have devoted a more detailed explanation of this issue in the following sections, which are organized as follows:

(1) The Various Determinants of Growth

(2) Reasonable Estimates for Long-Term Growth

(3) Quantitative vs. Qualitative Determinants of Utility Growth: Circular References, "Flatworm" Growth, and the Problem with Analysts' Growth Rates

(4) Growth Rate Recommendation

1. The Various Determinants of Growth

Q. Describe the various determinants of growth.

A. Although the DCF Model directly considers the growth of dividends, there are a variety of growth determinants that should be considered when estimating growth rates. It should be noted that these various growth determinants are used primarily to determine the short-term growth rates in multi-stage DCF models. For utility companies, it is necessary to focus primarily on long-term growth rates, which are discussed in the following section. That is not to say that these growth determinants cannot be considered when estimating long-term growth; however, as discussed below, long-term growth must be constrained much more than short-term growth, especially for young firms with high growth opportunities. Additionally, I briefly discuss these growth determinants here because it may reveal some of the source of confusion in this area.

A. Historical Growth

Looking at a firm's actual historical experience may theoretically provide a good starting point for estimating short-term growth. However, past growth is not always a good indicator of future growth. Some metrics that might be considered here are a historical growth in revenues, operating income, and net income. Since dividends are paid from earnings, estimating historical earnings growth may provide an indication of future earnings and dividend growth. In general, however, revenue growth tends to be more consistent and predictable than earnings growth because it is less likely to be influenced by accounting adjustments.[40]

B. Analyst Growth Rates

Analyst growth rates refer to short-term projections of earnings growth published by institutional research analysts such as Value Line and Bloomberg. A more detailed discussion of analyst growth rates, including the problems with using them in the DCF Model to estimate utility cost of equity, is provided in a later section of this testimony.

C. Fundamental Determinants of Growth

Fundamental growth determinants refer to firm-specific financial metrics that arguably provide better indications of near-term sustainable growth. One such metric for fundamental growth considers the return on equity and the retention ratio. The

[40] *See* Damodaran, supra, at 279.

idea behind this metric is that firms with high ROEs and retention ratios should have greater opportunities for growth.[41]

Q. Did you use any of these growth determinants in your DCF Model?

A. No. Primarily, these growth determinants discussed above would provide better indications of short- to mid-term growth for firms with average to high growth opportunities. Utilities, however, are mature, low-growth firms. While it may not be unreasonable on its face to use any of these growth determinants for the growth input in the DCF Model, we must keep in mind that the stable growth DCF Model considers only long-term growth rates, which are constrained by certain economic factors, as discussed further below.

2. Reasonable Estimates for Long-term Growth

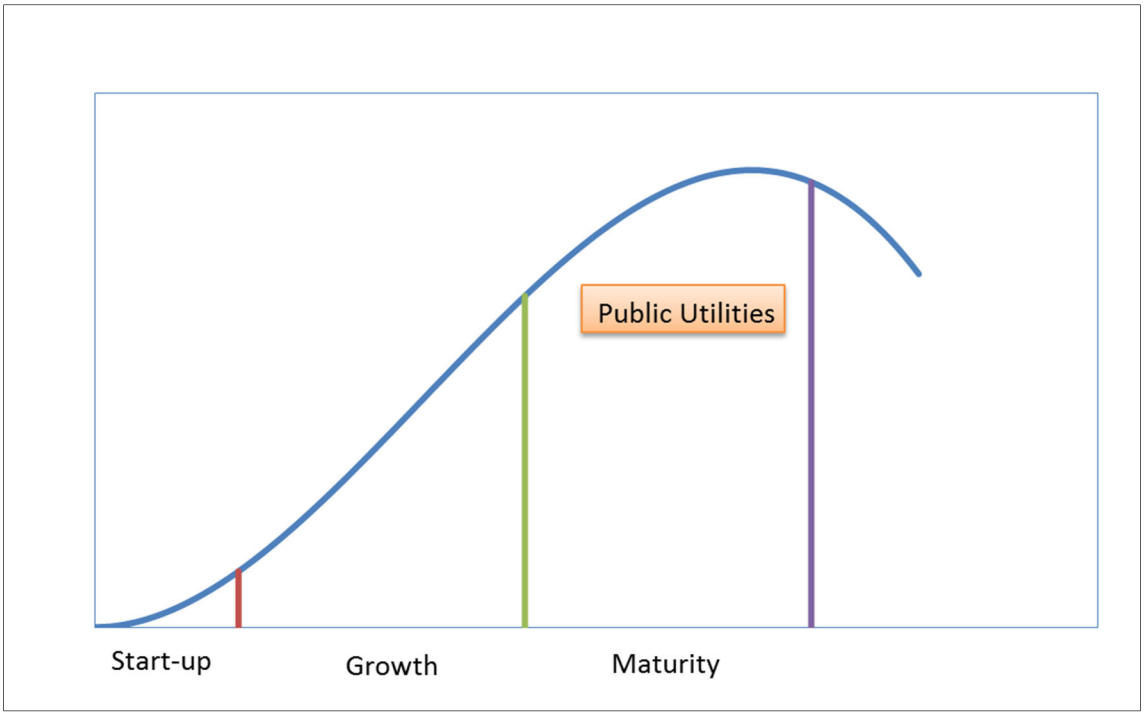
Q. Describe what is meant by long-term growth.

A. In order to make the DCF Model a viable, practical model, an infinite stream of future cash flows must be estimated and then discounted back to the present. Otherwise, each annual cash flow would have to be estimated separately. Some analysts use "multi-stage" DCF Models to estimate the value of high-growth firms through two or more stages of growth, with the final stage of growth being constant. However, it is not necessary to use multi-stage DCF Models to analyze the cost of equity of regulated utility companies. This is because regulated utilities are already in their "terminal," low growth stage. Unlike most competitive firms, the growth of regulated utilities is constrained by physical service territories and limited primarily by ratepayer and load

[41] *Id.* at 279.

growth within those territories. The figure below illustrates the well-known business/industry life-cycle pattern.

Figure 6: Industry Life Cycle



In an industry's early stages, there are ample opportunities for growth and profitable reinvestment. In the maturity stage however, growth opportunities diminish, and firms choose to pay out a larger portion of their earnings in the form of dividends instead of reinvesting them in operations to pursue further growth opportunities. Once a firm is in the maturity stage, it is not necessary to consider higher short-term growth metrics in multi-stage DCF Models; rather, it is sufficient to analyze the cost of equity using a stable growth DCF Model with one terminal, long-term growth rate.

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Q. Is it true that the terminal growth rate cannot exceed the growth rate of the economy, especially for a regulated utility company?

A. Yes. A fundamental concept in finance is that no firm can grow forever at a rate higher than the growth rate of the economy in which it operates.[42] Thus, the terminal growth rate used in the DCF Model should not exceed the aggregate economic growth rate. This is especially true when the DCF Model is conducted on public utilities because these firms have defined service territories. As stated by Dr. Damodaran: "[i]f a firm is a purely domestic company, either because of internal constraints . . . or external constraints (such as those imposed by a government), the growth rate in the domestic economy will be the limiting value."[43]

In fact, it is reasonable to assume that a regulated utility would grow at a rate that is less than the U.S. economic growth rate. Unlike competitive firms, which might increase their growth by launching a new product line, franchising, or expanding into new and developing markets, utility operating companies with defined service territories cannot do any of these things to grow. Gross Domestic Product ("GDP") is one of the most widely used measures of economic production and is used to measure aggregate economic growth. According to the Congressional Budget Office's Budget Outlook, the long-term forecast for nominal U.S. GDP growth is about 4 percent.[44]

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[42] *See* Damodaran, supra, at 306.
[43] *Id.*
[44] *Congressional Budget Office Long-Term Budget Outlook,* https://www.cbo.gov/publication/56977 (last accessed July 22, 2021).

Q. Is it reasonable to assume that the terminal growth rate will not exceed the risk-free rate?

A. Yes. In the long term, the risk-free rate will converge on the growth rate of the economy. For this reason, financial analysts sometimes use the risk-free rate for the terminal growth rate value in the DCF model.[45] I discuss the risk-free rate in further detail later in this testimony.

Q. Please summarize the various long-term growth rate estimates that can be used as the terminal growth rate in the DCF Model.

A. The reasonable long-term growth rate determinants are summarized as follows:

1. Nominal GDP Growth
2. Real GDP Growth
3. Current Risk-Free Rate

Any of the foregoing growth determinants could provide a basis for a reasonable input for the terminal growth rate in the DCF Model for a utility company, including Avista.

3. Qualitative Growth: The Problem with Analysts' Growth Rates

Q. Describe the differences between "quantitative" and "qualitative" growth determinants.

A. Assessing "quantitative" growth simply involves mathematically calculating a historic metric for growth (such as revenues or earnings) or calculating various fundamental growth determinants using certain figures from a firm's financial

[45] Damodaran, supra, at 307.

statements (such as ROE and the retention ratio). However, any thorough assessment of company growth should be based upon a "qualitative" analysis. Such an analysis would consider specific strategies that company management will implement to achieve real sustainable growth in earnings. Therefore, it is important to begin the analysis of Avista's growth rate with this simple, qualitative question: how is this regulated utility going to achieve a real sustained growth in earnings? If this question were asked of a competitive firm, there could be several answers depending on the type of business model, such as launching a new product line, franchising, rebranding to target a new demographic, or expanding into a developing market. Regulated utilities, however, cannot engage in these potential growth opportunities.

Q. Why is it especially important to emphasize real, qualitative growth determinants when analyzing whether a growth rate is fair for a regulated utility?

A. While qualitative growth analysis is important regardless of the entity being analyzed, it is especially important in the context of utility ratemaking. This is because the rate base ROR model inherently possesses two factors that can contribute to distorted views of utility growth when considered exclusively from a quantitative perspective. These two factors are: (1) rate base and (2) the awarded ROE. I will discuss each factor further below. It is important to keep in mind that the ultimate objective of this analysis is to provide a foundation upon which to base the fair ROR for the utility. Thus, we should strive to ensure that each individual component of the financial models used to estimate the cost of equity are also fair. If we consider only quantitative growth determinants, it may lead to projected growth rates that are

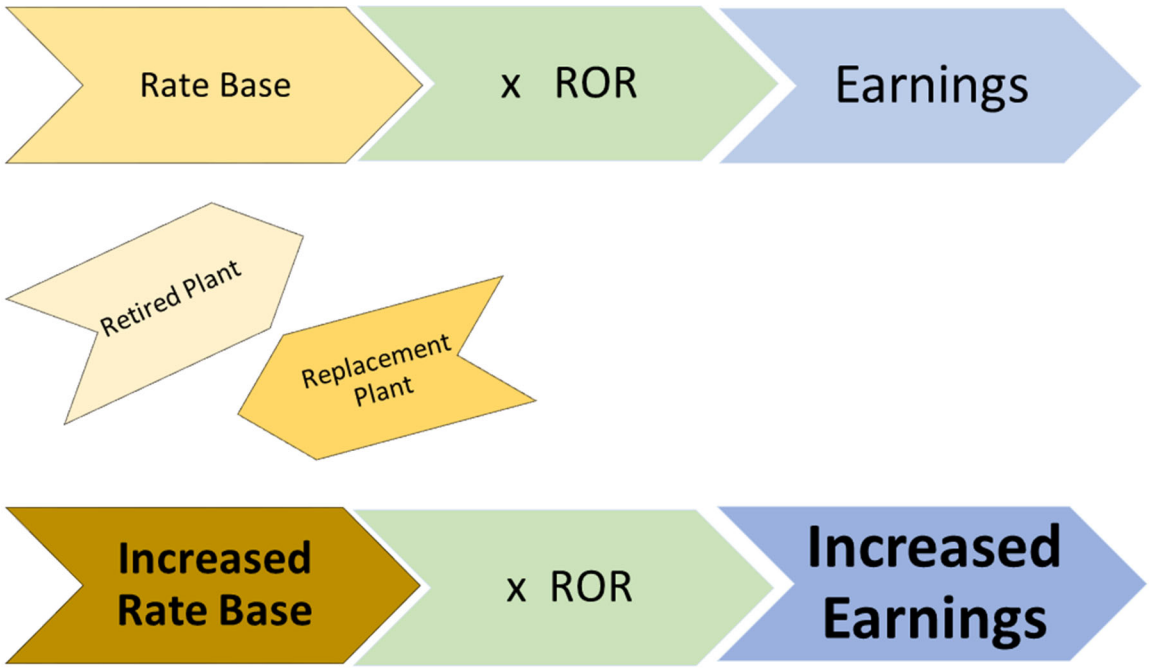
overstated and ultimately unfair, because they result in inflated cost of equity estimates.

Q. How does rate base relate to growth determinants for utilities?

A. Under the rate base ROR model, a utility's rate base is multiplied by its awarded ROR to produce the required level of operating income. Therefore, increases to rate base generally result in increased earnings. Thus, utilities have a natural financial incentive to increase rate base. In short, utilities have a financial incentive to increase rate base regardless of whether such increases are driven by a corresponding increase in demand. A good, relevant example of this is seen in the early retirement of old, but otherwise functional coal plants in response to environmental regulations and replacing them with new generation assets. Under these circumstances, utilities have been able to increase their rate bases by a far greater extent than what any concurrent increase in demand would have required. In other words, utilities grew their earnings by simply retiring old assets and replacing them with new assets. This is not "real" or "sustainable" growth. If the tail of a flatworm is removed and regenerated, it does not mean the flatworm actually grew. Likewise, if a competitive, unregulated firm announced plans to close production plants and replace them with new plants, it would not be considered a real determinant of growth unless analysts believed this decision would directly result in increased market share for the company and a real opportunity for sustained increases in revenues and earnings. In the case of utilities, the mere replacement of "old plant" with "new plant" does not increase market share, attract new ratepayers, create franchising opportunities, or allow utilities to penetrate developing markets, but may result in short-term, quantitative earnings growth.

However, this "flatworm growth" in earnings was merely the quantitative byproduct of the rate base-ROR model, and not an indication of real or qualitative growth and, therefore, using that data alone to estimate a growth rate is not fair. The following diagram in the figure below illustrates this concept.

Figure 7: Analysts' Earning Growth Projections: The "Flatworm Growth" Problem

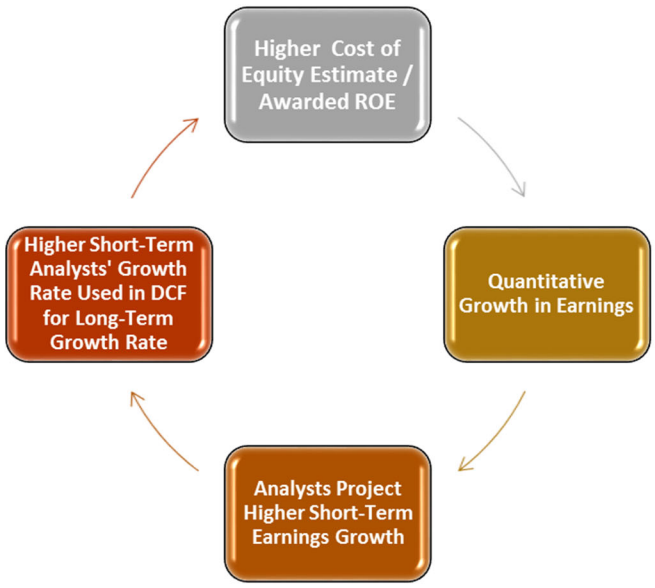


Of course, utilities might sometimes add "new plant" to meet a modest growth in ratepayer demand. However, as the foregoing discussion demonstrates, it would be more appropriate to consider load growth projections and other qualitative indicators, rather than mere increases to rate base or earnings, to attain a fair assessment of growth.

Q. Please discuss the other way in which analysts′ earnings growth projections do not provide indications of real, qualitative growth for regulated utilities.

A. If we give undue weight to analysts' projections for utilities' earnings growth, it will not provide an accurate reflection of real, qualitative growth because a utility's earnings are heavily influenced by the ultimate figure that all this analysis is supposed to help us estimate: the awarded return on equity. This creates a circular reference problem or feedback loop. In other words, if a regulator awards an ROE that is above market-based cost of capital (which is often the case, as discussed above), this could lead to higher short-term growth rate projections from analysts. If these same inflated, short-term growth rate estimates are used in the DCF Model (as they often are by utility witnesses), it could lead to higher awarded ROEs; and the cycle continues, as illustrated in the figure below.

Figure 8: Analysts' Earnings Growth Projections: The "Circular Reference" Problem



Therefore, it is not advisable to simply consider the quantitative growth projections published by analysts, as this practice will not necessarily provide fair indications of real, sustainable utility growth.

Q. Are there any other problems with relying on analysts' growth projections?

A. Yes. While the foregoing discussion shows two reasons why we cannot rely on analysts' growth rate projections to provide fair, qualitative indicators of utility growth in a stable growth DCF Model, the third reason is perhaps the most obvious and undisputable. Various institutional analysts—such as Zacks, Value Line, and Bloomberg—publish estimated projections of earnings growth for utilities. These estimates are short-term growth rate projections, ranging from 3 to 10 years. However, many utility ROE analysts inappropriately insert these short-term growth projections into the DCF Model as if they were *long-term* growth rate projections. For example, assume that an analyst at Bloomberg estimates that a utility's earnings will grow by 7 percent per year over the next three years. This analyst may have based this short-term forecast on a utility's plans to replace depreciated rate base (*i.e.*, "flatworm growth") or on an anticipated awarded return that is above market-based cost of equity (*i.e.*, the "circular reference" problem). When a utility witness uses this figure in a DCF Model, however, it is the witness, not the Bloomberg analyst, who is testifying to the regulator that the utility's earnings will qualitatively grow by 7 percent per year over the long-term, which is an unrealistic assumption and a fundamentally different conclusion than that of the Bloomberg analyst.

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4. Long-Term Growth Rate Recommendation

Q. Describe the growth rate input used in your DCF Model.

A. I considered various qualitative determinants of growth for Avista, along with the maximum allowed growth rate under basic principles of finance and economics. The following chart in the figure below shows the various growth determinants I considered.[46]

Figure 9: Terminal Growth Rate Determinants

Terminal Growth Determinants	Rate
Nominal GDP	3.8%
Real GDP	1.8%
Risk Free Rate	3.2%
Highest	**3.8%**

Company-Specific Qualitiative Growth Determinants	Rate
Electric Load (MWh)	-2.8%
Gas Load (Therms)	-1.8%
Electric Customers	1.2%
Gas Customers	1.6%
Average	**-0.5%**

[46] *See* Garrett, Exh. DJG-6 (DCF Terminal Growth Rate Determinants).

For the long-term growth rate in my DCF model, I selected the maximum, reasonable long-term growth rate of 3.8 percent, which means my model assumes that Avista's qualitative growth in earnings will qualitatively match the nominal growth rate of the entire U.S. economy over the long run – a charitable assumption.

Q. Did you also consider Company-specific, qualitative growth factors to check the reasonableness of your conclusions regarding Avista′s most appropriate long-term growth rate for the DCF Model?

A. Yes. According to Avista's own calculations, its annual growth rate in qualitative factors such as customer and load growth are notably lower than the growth rate I used in my DCF Model, as shown in the figure above. In my experience, these types of low-growth figures are common among utilities for company-specific, qualitative growth determinants such as demand and customer growth, whether historical or projected. This confirms the reasonableness of using the long-term growth rate that I used in the DCF Model, which is notably higher than these Company-specific growth determinants.

Q. Please describe the final results of your DCF Model.

A. I used the Quarterly Approximation DCF Model discussed above to estimate Avista's cost of equity capital. I obtained an average of reported dividends and stock prices from the proxy group, and I used a reasonable terminal growth rate estimate for Avista. My DCF Model cost of equity estimate for Avista is 7.5 percent.[47]

[47] *See* Garrett, Exh. DJG-7 (DCF Final Results).

VII. CAPITAL ASSET PRICING MODEL ANALYSIS

Q. Describe the CAPM.

A. The CAPM is a market-based model founded on the principle that investors expect higher returns for incurring additional risk.[48] The CAPM estimates this expected return. The various assumptions, theories, and equations involved in the CAPM are discussed further in Exhibit 18. Using the CAPM to estimate the cost of equity of a regulated utility is consistent with the legal standards governing the fair ROR. The U.S. Supreme Court has recognized that "the amount of risk in the business is a most important factor" in determining the allowed ROR,[49] and that "the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks."[50] The CAPM is a useful model because it directly considers the amount of risk inherent in a business.

Q. Describe the inputs for the CAPM.

A. The basic CAPM equation requires only three inputs to estimate the cost of equity: (1) the risk-free rate; (2) the beta coefficient; and (3) the equity risk premium. Here is the CAPM formula:

Equation 3: Basic CAPM

Cost of Equity = Risk-free Rate + (Beta × Equity Risk Premium)

Each input is discussed separately below.

[48] William F. Sharpe, *A Simplified Model for Portfolio Analysis* 277–93 (Management Science IX 1963).
[49] *Wilcox*, 212 U.S. at 48.
[50] *Hope Natural Gas Co*., 320 U.S. at 603.

A. The Risk-Free Rate

Q. Explain the risk-free rate.

A. The first term in the CAPM is the risk-free rate (R_F). The risk-free rate is simply the level of return investors can achieve without assuming any risk. The risk-free rate represents the bare minimum return that any investor would require on a risky asset. Even though no investment is technically void of risk, investors often use U.S. Treasury securities to represent the risk-free rate because they accept that those securities essentially contain no default risk. The Treasury issues securities with different maturities, including short-term Treasury Bills, intermediate-term Treasury Notes, and long-term Treasury Bonds.

Q. Is it preferable to use the yield on long-term Treasury bonds for the risk-free rate in the CAPM?

A. Yes. In valuing an asset, investors estimate cash flows over long periods of time. Common stock is viewed as a long-term investment, and the cash flows from dividends are assumed to last indefinitely. Thus, short-term Treasury Bill yields are rarely used in the CAPM to represent the risk-free rate. Short-term rates are subject to greater volatility and thus can lead to unreliable estimates. Instead, long-term Treasury bonds are usually used to represent the risk-free rate in the CAPM. I considered a 30-day average of daily Treasury yield curve rates on 30-year Treasury Bonds in my risk-free rate estimate, which resulted in a risk-free rate of 3.21 percent.[51]

[51] *See* Garrett, Exh. DJG-8 (CAPM Risk-Free Rate).

B. The Beta Coefficient

Q. How is the beta coefficient used in this model?

A. As discussed above, beta represents the sensitivity of a given security to movements in the overall market. The CAPM states that in efficient capital markets, the expected risk premium on each investment is proportional to its beta. Recall that a security with a beta greater (or less) than one is more (or less) risky than the market portfolio. An index such as the S&P 500 Index is used as a proxy for the market portfolio. The historical betas for publicly traded firms are published by various institutional analysts. Beta may also be calculated through a linear regression analysis, which provides additional statistical information about the relationship between a single stock and the market portfolio. As discussed above, beta also represents the sensitivity of a given security to the market as a whole. The market portfolio of all stocks has a beta equal to one. Stocks with betas greater than 1.0 are relatively more sensitive to market risk than the average stock. For example, if the market increases (or decreases) by 1.0 percent, a stock with a beta of 1.5 will, on average, increase (or decrease) by 1.5 percent. In contrast, stocks with betas of less than 1.0 are less sensitive to market risk. For example, if the market increases (or decreases) by 1.0 percent, a stock with a beta of 0.5 will, on average, only increase (or decrease) by 0.5 percent.

Q. Describe the source for the betas you used in your CAPM analysis.

A. I used betas recently published by Value Line Investment Survey. The average beta for the proxy group is less than 1.0. Thus, we have an objective measure to prove the well-known concept that utility stocks are generally less risky than the average stock

in the market. While there is evidence suggesting that betas published by sources such as Value Line may actually overestimate the risk of utilities[52] (and thus overestimate the CAPM), I used Value Line's published betas as a conservative estimate.[53]

C. The Equity Risk Premium

Q. Describe the Equity Risk Premium (ERP).

A. The final term of the CAPM is the ERP, which is the required return on the market portfolio less the risk-free rate ($R_M - R_F$). In other words, the ERP is the level of return investors expect above the risk-free rate in exchange for investing in risky securities. Many experts agree that "the single most important variable for making investment decisions is the equity risk premium."[54] Likewise, the ERP is arguably the single most important factor in estimating the cost of capital in this matter. There are three basic methods that can be used to estimate the ERP: (1) calculating a historical average, (2) taking a survey of experts, and (3) calculating the implied ERP. I will discuss each method in turn, noting advantages and disadvantages of these methods.

1. Historical Average

Q. Describe the historical ERP.

A. The historical ERP may be calculated by simply taking the difference between returns on stocks and returns on government bonds over a certain period of time. Many practitioners rely on the historical ERP as an estimate for the forward-looking ERP

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[52] *See* Exh. DJG-18..
[53] *See* Garrett, Exh. DJG-9 (CAPM Beta Results); *see also* Exh, DJG-XX for a more detailed discussion of raw beta calculations and adjustments.
[54] Elroy Dimson, Paul Marsh & Mike Staunton, *Triumph of the Optimists: 101 Years of Global Investment Returns* 4 (Princeton University Press 2002).

because it is easy to obtain. However, there are disadvantages to relying on the historical ERP.

Q. What are the limitations of relying solely on a historical average to estimate the current or forward-looking ERP?

A. Many investors use the historic ERP because it is convenient and easy to calculate. What matters in the CAPM model, however, is not the actual risk premium from the past, but rather the current and forward-looking risk premium.[55] Some investors may think that a historic ERP provides some indication of the prospective risk premium; however, there is empirical evidence to suggest the prospective, forward-looking ERP is actually lower than the historical ERP. In a landmark publication on risk premiums around the world, *Triumph of the Optimists*, the authors suggest through extensive empirical research that the prospective ERP is lower than the historical ERP.[56] This is due in large part to what is known as "survivorship bias" or "success bias" – a tendency for failed companies to be excluded from historical indices.[57] From their extensive analysis, the authors make the following conclusion regarding the prospective ERP: "[t]he result is a forward-looking, geometric mean risk premium for the United States . . . of around 2½ to 4 percent and an arithmetic mean risk premium . . . that falls within a range from a little below 4 to a little above 5 percent."[58] Indeed, these results are lower than many reported historical risk premiums. Other noted experts agree:

[55] *See* Graham, supra, at 330.
[56] *See Id.* 194.
[57] Dimson, supra, at 34.
[58] *Id.* at 194.

> The historical risk premium obtained by looking at U.S. data is biased upwards because of survivor bias. . . . The true premium, it is argued, is much lower. This view is backed up by a study of large equity markets over the twentieth century (*Triumph of the Optimists*), which concluded that the historical risk premium is closer to 4%.[59]

Regardless of the variations in historic ERP estimates, many scholars and practitioners agree that simply relying on a historic ERP to estimate the risk premium going forward is not ideal. Fortunately, "a naïve reliance on long-run historical averages is not the only approach for estimating the expected risk premium."[60]

Q. Did you rely on the historical ERP as part of your CAPM analysis in this case?

A. No. Due to the limitations of this approach, I relied on the ERP reported in expert surveys and the implied ERP method discussed below.

2. Expert Surveys

Q. Describe the expert survey approach to estimating the ERP.

A. As its name implies, the expert survey approach to estimating the ERP involves conducting a survey of experts including professors, analysts, chief financial officers, and other executives around the country and asking them what they think the ERP is. The IESE Business School conducts such a survey each year. Their 2022 expert survey reported an average ERP of 5.6 percent.[61]

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[59] Aswath Damodaran, *Equity Risk Premiums: Determinants, Estimation and Implications – The 2015 Edition* 17 (New York University 2015).
[60] *See* Graham, supra, at 330.
[61] Pablo Fernandez, et al., *Survey: Market Risk Premium and Risk-Free Rate Used for 95 Countries in 2022*, at 3 (May 23, 2022) (IESE Business School 2022), copy available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3803990. IESE Business School is the graduate business school of the University of Navarra. IESE offers Master of Business Administration (MBA), Executive MBA and Executive Education programs. IESE is consistently ranked among the leading business schools in the world.

3. Implied ERP

Q. Describe the implied ERP approach.

A. The third method of estimating the ERP is arguably the best. The implied ERP relies on the stable growth model proposed by Gordon, often called the "Gordon Growth Model," which is a basic stock valuation model widely used in finance for many years.[62] This model is a mathematical derivation of the DCF Model. In fact, the underlying concept in both models is the same: the current value of an asset is equal to the present value of its future cash flows. Instead of using this model to determine the discount rate of one company, we can use it to determine the discount rate for the entire market by substituting the inputs of the model. Specifically, instead of using the current stock price (P_0), we will use the current value of the S&P 500 (V_{500}). Similarly, instead of using the dividends of a single firm, we will consider the dividends paid by the entire market. Additionally, we should consider potential dividends. In other words, stock buybacks should be considered in addition to paid dividends, as stock buybacks represent another way for the firm to transfer free cash flow to shareholders. Focusing on dividends alone without considering stock buybacks could understate the cash flow component of the model, and ultimately understate the implied ERP. The market dividend yield plus the market buyback yield gives us the gross cash yield to use as our cash flow in the numerator of the discount model. This gross cash yield is increased each year over the next five years by the

[62] Myron J. Gordon and Eli Shapiro, *Capital Equipment Analysis: The Required Rate of Profit* 102–10 (Management Science Vol. 3, No. 1 Oct. 1956).

growth rate. These cash flows must be discounted to determine their present value. The discount rate in each denominator is the risk-free rate (R_F) plus the discount rate (K). The following formula shows how the implied return is calculated. Since the current value of the S&P is known, we can solve for K: the implied market return.[63]

Equation 4: Implied Market Return

$$V_{500} = \frac{CY_1(1+g)^1}{(1+R_F+K)^1} + \frac{CY_2(1+g)^2}{(1+R_F+K)^2} + \cdots + \frac{CY_5(1+g)^5 + TV}{(1+R_F+K)^5}$$

where:

V_{500}	=	*current value of index (S&P 500)*
$CY_{1\text{-}5}$	=	*average cash yield over last ten years (includes dividends and buybacks)*
g	=	*compound growth rate in earnings over last ten years*
R_F	=	*risk-free rate*
K	=	*implied market return (this is what we are solving for)*
TV	=	*terminal value = CY_5 $(1+R_F)$ / K*

The discount rate is called the "implied market return" here because it is based on the current value of the index as well as the value of free cash flow to investors projected over the next five years. Thus, based on these inputs, the market is "implying" the expected return; or in other words, based on the current value of all stocks (the index price), and the projected value of future cash flows, the market is telling us the return expected by investors for investing in the market portfolio. After solving for the implied market return (K), we simply subtract the risk-free rate from it to arrive at the implied ERP.

Equation 5: Implied Equity Risk Premium

$$Implied\ Expected\ Market\ Return - R_F = Implied\ ERP$$

[63] *See* Garrett, Exh. DJG-10 (CAPM Implied Equity Risk Premium Calculation (for a detailed calculation)).

Q. Discuss the results of your implied ERP calculation.

A. After collecting data for the index value, operating earnings, dividends, and buybacks for the S&P 500 over the past six years, I calculated the dividend yield, buyback yield, and gross cash yield for each year. I also calculated the compound annual growth rate (g) from operating earnings. I used these inputs, along with the risk-free rate and current value of the index to calculate a current expected return on the entire market of 7.6 percent. I subtracted the risk-free rate to arrive at the implied equity risk premium of 4.8 percent.[64] Dr. Damodaran, one of the world's leading experts on the ERP, promotes the implied ERP method discussed above. He calculates monthly and annual implied ERPs with this method and publishes his results. Dr. Damodaran's average ERP estimate for July 2022 using several implied ERP variations was 5.6 percent.[65]

Q. What are the results of your final ERP estimate?

A. For the final ERP estimate I used in my CAPM analysis, I considered the results of the ERP surveys, the implied ERP calculations, and the ERP reported by Duff & Phelps.[66] The results are presented in the following figure:

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[64] *See* Garrett, Exh. DJG-10 (CAPM Implied Equity Risk Premium Calculation).
[65] Aswath Damodaran, *Implied Equity Risk Premium Update*, Damodaran Online http://pages.stern.nyu.edu/~adamodar/ (last visited July 21, 2022).
[66] *See* Garrett, Exh. DJG-11 (CAPM Equity Risk Premium Results).

Figure 10: Equity Risk Premium Results

IESE Business School Survey	5.6%
Duff & Phelps Report	5.5%
Damodaran (average)	5.6%
Garrett	5.8%
Average	**5.6%**

As shown in this figure, the average ERP from these sources is 5.6 percent, which is the ERP I used in my CAPM analysis.

Q. Please explain the final results of your CAPM analysis.

A. Using the inputs for the risk-free rate, beta coefficient, and ERP discussed above, I estimate that Avista's CAPM cost of equity is 8.3 percent.[67] The CAPM may be displayed graphically through what is known as the Security Market Line (SML). The following figure shows the expected return (cost of equity) on the y-axis, and the average beta for the proxy group on the x-axis. The SML intercepts the y-axis at the level of the risk-free rate. The slope of the SML is the equity risk premium.

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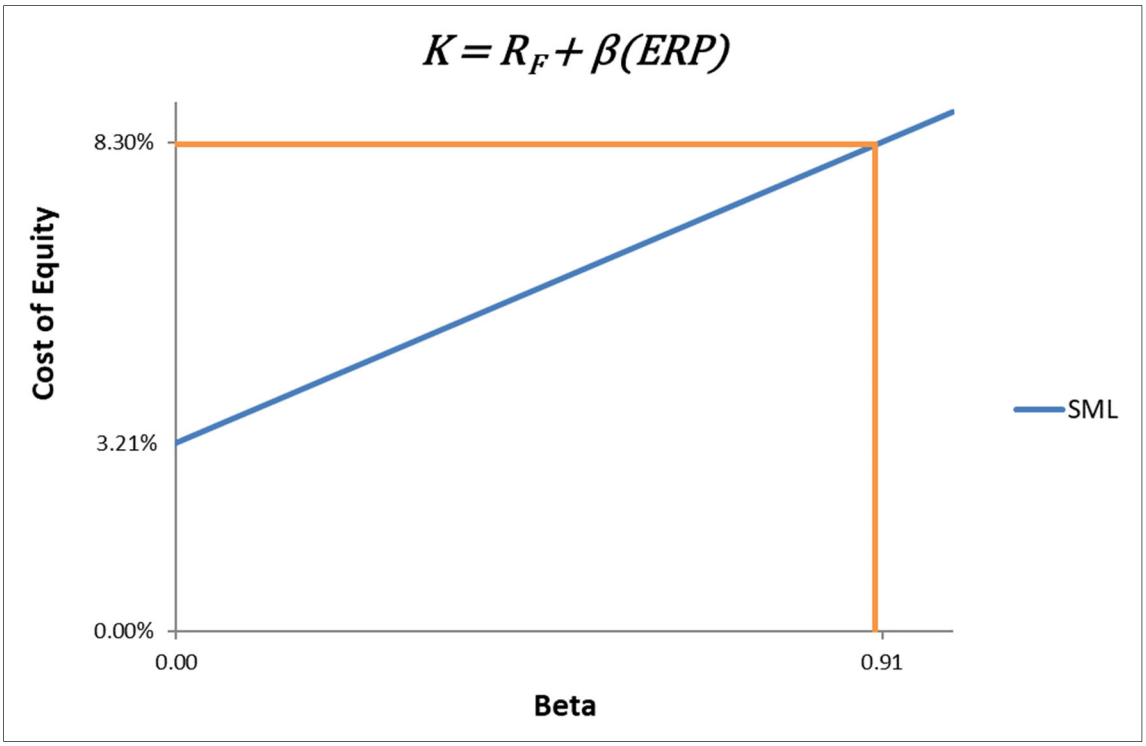
[67] *See* Garrett, Exh. DJG-12 (CAPM Final Results).

Figure 11: CAPM Graph



The SML provides the ROR that will compensate investors for the beta risk of that investment. Thus, at an average beta of 0.91 for the proxy group, the estimated CAPM cost of equity for Avista is 8.3 percent.

Q. Does your cost of equity estimate incorporate current market conditions such as inflation?

A. Yes. In response to a recent increase in the annual inflation rate, the Federal Reserve increased its benchmark federal funds rate. This has also caused an increase in Treasury bond yields, which are used as a proxy for the risk-free rate in financial modeling, including the CAPM. I have incorporated recent Treasury bond yields in my CAPM analysis, which has resulted in a higher indicated CAPM cost of equity than would have occurred in prior years, all else held constant. In other words, it

would be unreasonable to consider the effects of inflation in addition to those effects already incorporated into the cost of equity models.

VIII. SUMMARY OF RESULTS FROM COST OF EQUITY MODELS

Q. Please summarized the results of your cost of equity models.

A. Using reasonable and objective inputs, the CAPM and DCF Models produced cost of equity results of 7.5 percent and 8.3 percent, respectively. The average cost of equity result of these two models is 7.9 percent.

Q. Based on your cost of equity estimate for Avista of 7.9 percent, do you believe your recommended authorized ROE of 8.75 percent is reasonable?

A. Although an authorized ROE of 8.75 percent clearly exceeds any reasonable estimate of Avista's market-based cost of equity, I believe it is reasonable under the circumstances because it reflects a gradual, yet meaningful move towards fairness and equity by reducing the excess wealth transfer from customers to shareholders that otherwise occurs when the authorized ROE grossly exceeds actual market-based equity costs.

IX. CAPITAL STRUCTURE

Q. Describe in general the concept of a company′s capital structure.

A. "Capital structure" refers to the way a company finances its overall operations through external financing. The primary sources of long-term external financing are debt capital and equity capital. Debt capital usually comes in the form of contractual bond issues that require the firm to make payments, while equity capital represents an ownership interest in the form of stock. Because a firm cannot pay dividends on

common stock until it satisfies its debt obligations to bondholders, stockholders are referred to as "residual claimants." The fact that stockholders have a lower priority to claims on company assets increases their risk and the required return relative to bondholders. Thus, equity capital has a higher cost than debt capital. Firms can reduce their WACC by recapitalizing and increasing their debt financing. In addition, because interest expense is deductible, increasing debt also adds value to the firm by reducing the firm's tax obligation.

Q. Is it true that, by increasing debt, competitive firms can add value and reduce their WACC?

A. Yes, it is. A competitive firm can add value by increasing debt. After a certain point, however, the marginal cost of additional debt outweighs its marginal benefit. This is because the more debt the firm uses, the higher interest expense it must pay, and the likelihood of loss increases. This also increases the risk of non-recovery for both bondholders and shareholders, causing both groups of investors to demand a greater return on their investment. Thus, if debt financing is too high, the firm's WACC will increase instead of decrease. The following figure illustrates these concepts.

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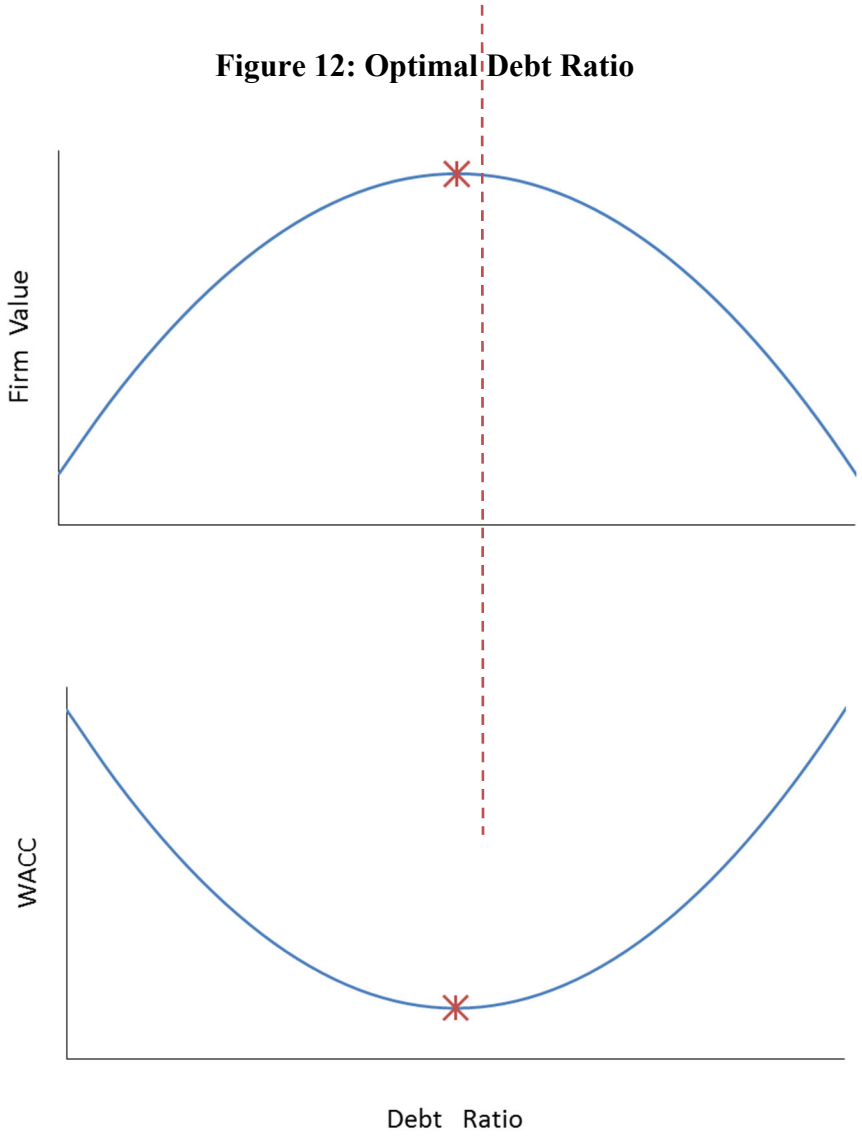
Figure 12: Optimal Debt Ratio



As shown in this figure, a competitive firm's value is maximized when the WACC is minimized. In both graphs, the debt ratio is shown on the x-axis. By increasing its debt ratio, a competitive firm can minimize its WACC and maximize its value. At a certain point, however, the benefits of increasing debt do not outweigh the

costs of the additional risks to both bondholders and shareholders, as each type of investor will demand higher returns for the additional risk they have assumed.[68]

Q. Does the rate base-ROR model effectively incentivize utilities to operate at the optimal capital structure?

A. No. While it is true that competitive firms maximize their value by minimizing their WACC, this is not the case for regulated utilities. Under the rate base ROR model, a higher WACC results in higher rates, all else held constant. The basic revenue requirement equation is as follows:

Equation 6: Revenue Requirement for Regulated Utilities

$$RR = O + d + T + \boldsymbol{r}(A - D)$$

where:

RR	=	*revenue requirement*
O	=	*operating expenses*
d	=	*depreciation expense*
T	=	*corporate tax*
$\boldsymbol{r}$	=	***weighted average cost of capital (WACC)***
A	=	*plant investments*
D	=	*accumulated depreciation*

As shown in this equation, utilities can increase their revenue requirement by increasing their WACC, not by minimizing it. Thus, because there is no incentive for a regulated utility to minimize its WACC, a commission standing in the place of competition must ensure that the regulated utility is operating at the lowest reasonable WACC.

[68] *See* Graham, supra, at 440–41.

Q. Can utilities generally afford to have higher debt levels than other industries?

A. Yes. Because regulated utilities have large amounts of fixed assets, stable earnings, and low risk relative to other industries, they can afford to have relatively higher debt ratios (or "leverage"). As aptly stated by Dr. Damodaran:

> Since financial leverage multiplies the underlying business risk, it stands to reason that firms that have high business risk should be reluctant to take on financial leverage. It also stands to reason that firms that operate in stable businesses should be much more willing to take on financial leverage. Utilities, for instance, have historically had high debt ratios but have not had high betas, mostly because their underlying businesses have been stable and fairly predictable.[69]

Note that the author explicitly contrasts utilities with firms that have high underlying business risk. Because utilities have low levels of risk and operate a stable business, they should generally operate with relatively high levels of debt to achieve their optimal capital structure.

Q. Are the capital structures of the proxy group a source that can be used to assess a prudent capital structure?

A. Yes. However, while the capital structures of the proxy group might provide some indication of an appropriate capital structure for the utility being studied, it is preferable to also consider additional types of analyses. The average debt ratios of a utility proxy group will likely be lower than what would be observed in a pure competitive environment. As I explain above, this is because utilities do not have a financial incentive to operate at the optimal capital structure.

[69] Damodaran, supra, at 196.

Q. How can utility regulatory commissions help overcome the fact that utilities do not have a natural financial incentive to minimize their cost of capital?

A. While under the rate base ROR model utilities do not have a natural financial incentive to minimize their cost of capital, competitive firms, in contrast, can and do maximize their value by minimizing their cost of capital. Competitive firms minimize their cost of capital by including a sufficient amount of debt in their capital structures. They do not do this because it is required by a regulatory body, but rather because their shareholders demand it in order to maximize value. The Commission can provide this incentive to Avista by acting as a surrogate for competition and setting rates consistent with a capital structure that is similar to what would be appropriate in a competitive, as opposed to a regulated, environment.

Q. Please describe how you assessed the reasonableness of Avista's proposed capital structure in this case.

A. In this case, I examined the capital structures of the proxy group, and I also looked at capital structures observed in other competitive industries to assess the overall reasonableness of my recommendation.

Q. Describe the debt ratios of the proxy group.

A. The proxy group of utilities reported an average debt ratio of 54.4 percent, which is higher than Avista's proposed debt ratio.[70]

[70] *See* Garrett, Exh. DJG-15 (Proxy Company Debt Ratios).

Q, Would it be reasonable for the Commission to impute a ratemaking debt ratio for Avista that is equal to the average debt ratio of the proxy group?

A. Yes. The capital structures of the proxy group are necessarily connected to the cost of equity indications produced by the same proxy group. The amount of debt a company has in its capital structure will affect its cost of equity. Thus, it is reasonable to consider the aggregate debt ratio of the same proxy group used to estimate Avista's cost of equity when assessing a fair ratemaking debt ratio for Avista.

Q. Did you also look at other competitive firms around the country to compare their debt ratios?

A. Yes. In fact, there are currently nearly 2,000 firms in various industries across the country with debt ratios greater than 50 percent, with an average debt ratio of 61 percent.[71] The following figure shows a sample of these industries, with debt ratios of at least 56 percent.

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[71] *See* Garrett, Exh. DJG-16 (Competitive Industry Debt Ratios).

Figure 13: Industries with Debt Ratios of 56 percent or Greater

Industry	# Firms	Debt Ratio
Air Transport	21	85%
Hospitals/Healthcare Facilities	31	80%
Hotel/Gaming	66	77%
Brokerage & Investment Banking	31	76%
Retail (Automotive)	32	72%
Food Wholesalers	15	68%
Retail (Grocery and Food)	15	68%
Rubber& Tires	2	67%
Bank (Money Center)	7	67%
Advertising	49	67%
Computers/Peripherals	46	67%
Auto & Truck	26	66%
Real Estate (Operations & Services)	51	66%
Retail (Special Lines)	76	64%
Cable TV	11	63%
Oil/Gas Distribution	21	63%
Packaging & Container	26	62%
Telecom. Services	42	61%
Recreation	60	61%
Broadcasting	28	60%
Transportation (Railroads)	4	60%
R.E.I.T.	238	60%
Power	50	60%
Telecom (Wireless)	17	59%
Transportation	17	59%
Beverage (Soft)	32	58%
Utility (Water)	14	57%
Retail (Distributors)	68	57%
Office Equipment & Services	18	57%
Aerospace/Defense	73	57%
Household Products	118	56%
Computer Services	83	56%
Green & Renewable Energy	20	56%
Total / Average	**1,408**	**64%**

Many of the industries shown here, like public utilities, are generally well-established industries with large amounts of capital assets. The shareholders of these

industries demand higher debt ratios in order to maximize their profits. There are several notable industries that are relatively comparable to public utilities in some respects (highlighted in green). I am not suggesting the Commission impute a ratemaking debt ratio for Avista purely based on the average debt ratio of any of these industries. However, this information, combined with the debt ratios observed for the proxy group indicate that a fair ratemaking debt ratio for Avista should be higher than 51.5 percent.

Q. What is your recommendation regarding the Company′s capital structure?

A. I recommend the Commission impute a capital structure for ratemaking purposes consisting of 54.4 percent debt and 45.6 percent equity, which is reflective of the average capital structure of the proxy group.

Q. Does this conclude your testimony?

A. Yes. To the extent I have not addressed an issue or proposal raised by the Company in this proceeding, it should not be construed that I agree with the same.