Columbia Exhibit No.

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the matter of:	)	
	)	
ELECTRONIC APPLICATION OF COLUMBIA GAS OF KENTUCKY, INC. FOR AN ADJUSTMENT OF RATES; APPROVAL OF DEPRECIATION STUDY; APPROVAL OF TARIFF REVISIONS; AND OTHER RELIEF	)	Case No. 2024-00092

PREPARED REBUTTAL TESTIMONY OF VINCENT V. REA ON BEHALF OF COLUMBIA GAS OF KENTUCKY, INC.

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COLUMBIA GAS OF KENTUCKY, INC.

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I. Introduction

Q. Please state your name and business address.

A. My name is Vincent V. Rea. My business address is 80 Blake Boulevard, #4572, Pinehurst, NC 28374.

Q. Are you the same Vincent V. Rea who submitted Direct Testimony in this proceeding?

A. Yes.

Q. What is the purpose of your rebuttal testimony in this proceeding?

A. The purpose of my testimony is to rebut and otherwise respond to the direct testimony of Richard A. Baudino, who has been retained by the Kentucky Office of the Attorney General (the "AG") in connection with Columbia's pending request for a base rate adjustment.

Q. Please provide an overview of the principal conclusions you have arrived at within your rebuttal testimony.

A. Within this rebuttal testimony, I present arguments and direct evidence which demonstrate that the recommendations of AG Witness Baudino are flawed, and should therefore be rejected by the Commission. In forming his recommendations, Mr. Baudino has relied upon assumptions, analyses and conclusions which suffer from a number of shortcomings, as summarized below:

- Mr. Baudino's recommended range estimates for Columbia's cost of equity ignores two entirely reasonable estimates of the cost of equity that are produced by his own CAPM analyses, both of which exceed the upper-end of his recommended ranges. Therefore, Mr. Baudino's cost of equity recommendations in this proceeding are inconsistent with the results of his own analyses.

- Mr. Baudino's cost of equity recommendation in this proceeding of 9.60 percent is materially lower than the recent national averages of authorized ROEs for gas utilities, which was 9.83 percent during the first-half of 2024 and 9.64 percent during 2023.[1]

- The approaches and input assumptions that Mr. Baudino has applied to his discounted cash flow ("DCF") analyses are flawed, and as a result, materially understate Columbia's cost of equity in the current market environment. Of particular note, Mr. Baudino's reliance upon dividend-per-share growth estimates, which the finance literature has demonstrated are not widely-referenced by investors, causes his DCF estimates of the cost of equity to be understated.

- The approaches and input assumptions that Mr. Baudino has applied to his capital asset pricing model ("CAPM") analyses are also flawed and materially understate the Company's cost of equity. As noted earlier, while Mr. Baudino has rejected his own CAPM-based estimates of the cost of equity that are based on two widely-accepted approaches used in utility rate proceedings, he inexplicably relies upon other questionable approaches that suffer from significant shortcomings, including subjective bias, recency bias, and a general lack of verifiability.

- Mr. Baudino has rejected the use of complementary proxy groups in this proceeding, which would have incorporated a broader array of investor perspectives into his evaluation, thereby improving the reliability of his cost of equity estimates. These potential benefits notwithstanding, Mr. Baudino has recommended that the Commission reject the Combination

[1] *Major Energy Rate Case Decisions in the U.S. - January-June 2024,* Regulatory Research Associates, S&P Global Market Intelligence, July 29, 2024, at 3-4.

Utility Group and the Non-Regulated Group on the basis that they are not of comparable risk to a gas proxy group. However, Mr. Baudino has not conducted a comprehensive comparative risk assessment to validate this assertion.

- Mr. Baudino has recommended that the Commission should continue its recent practice of reducing Columbia's authorized ROE for the Company's SMRP rider. In making this recommendation, Mr. Baudino has ignored the nature of Columbia's proposed changes to the SMRP rider. Under the Company's proposal, the SMRP would also encompass historic investments in a manner similar to base rates. Therefore, contrary to Mr. Baudino's assertion, including these historic investments in the SMRP rider would not provide any risk-reducing benefits for the Company that are typically associated with the reduction of regulatory lag.

After reviewing the testimony and analyses of Mr. Baudino in this proceeding, I have revisited my original cost of equity evaluation, which concluded that Columbia's cost of equity is in the range of 10.55 to 11.05 percent, with a midpoint value of 10.80 percent. Based upon my review, I did not come across any information or evidence that would cause me to revise my original recommendations. Therefore, I continue to support Columbia's proposed cost of equity of 10.80 percent in the instant proceeding.

Q. Please explain why the Company is revising its proposed weighted average cost of capital and overall fair rate of return in this proceeding.

A. Since the time that Columbia filed its case-in-chief on May 16, 2024, the Company completed one additional long-term debt issuance, which occurred on June 30, 2024. The interest cost rate for this issuance was 5.9124 percent, which differs from the projected cost rate of 6.25 percent that was reflected in the Company's original

filing. In view of the lower cost rate associated with Columbia's June 2024 debt issuance, Mr. Baudino has recommended that the Company's remaining long-term debt issuances that are expected to occur during the remainder of 2024 and 2025 should reflect the same 5.9124 percent cost rate as Columbia's June 2024 debt issuance. Based upon this revision, Mr. Baudino recalculated the Company's overall embedded cost of long-term debt, which reflects a reduction from Columbia's as-filed cost rate of 4.88 percent to 4.84 percent. In my judgment, this is a reasonable approach and I will therefore reflect the 4.84 percent updated cost rate in my revised recommendation for the Company's overall fair rate of return. As a result of making the aforementioned changes to Columbia's embedded cost of long-term debt, the Company's has revised its proposed overall fair rate of return from 8.01 percent to 7.99 percent. I will address this topic in greater detail in Section X of my rebuttal testimony.

Q. Are you sponsoring any attachments as part of your rebuttal testimony in this proceeding?

A. Yes. I am sponsoring Attachment Rebuttal VVR-2R, Attachment Rebuttal VVR-5R, and Attachment Rebuttal VVR-6R, which correspond to the same numbered attachments to my direct testimony, and which reflect the Company's proposed updates to Columbia's embedded cost of long-term debt and overall fair rate of

return. I will further discuss these attachments in Section X of my rebuttal testimony.

II. Overview of AG Witness Baudino's Recommendations

Q. Please provide an overview of Mr. Baudino's cost of equity recommendations in this proceeding.

A. Mr. Baudino has recommended a cost of equity of 9.60 percent in this proceeding. This point estimate recommendation was determined based upon Mr. Baudino's overall range recommendations for Columbia's cost of equity, which is 8.47 percent to 10.51 percent under his DCF analyses[2] and 8.90 percent to 10.00 percent under his CAPM analyses.[3] Notably, Mr. Baudino referenced these ranges in developing his point estimate of the cost of equity despite the fact that two of the estimates produced by his CAPM analysis are significantly higher than his recommended ranges. For example, under Mr. Baudino's forward-looking market return approach, which is a widely-referenced methodology in utility rate proceedings, his CAPM analysis yields a cost of equity estimate for Columbia of 10.94 percent.[4] Furthermore, under Mr. Baudino's historical risk premium approach using arithmetic averages, another widely-referenced methodology in utility rate proceedings, his CAPM analysis yields a cost of equity estimate for

[2] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 32.
[3] Id.
[4] Id., p. 31, at Table 1.

Columbia of 10.79 percent.[5] Therefore, both of these entirely reasonable estimates of the cost of equity were ignored by Mr. Baudino when he developed his range recommendations. Therefore, while Mr. Baudino maintains that my cost of equity range recommendations in this proceeding, of 10.55 percent to 11.05 percent, "substantially overstates"[6] the required rate of return for gas utilities, this statement is clearly inconsistent with the results of his own quantitative analyses.

Q. What recommendation has Mr. Baudino made in this proceeding with regard to Columbia's proposal to eliminate the lower authorized ROE on the Company's SMRP rider?

A. Mr. Baudino has recommended that the Commission reject this proposal and further recommends that based on current practice, the Commission should authorize an ROE of 9.50 percent for the Company's SMRP rider in the instant proceeding.

Q. What recommendation has Mr. Baudino made in this proceeding with regard to Columbia's capital structure and debt cost rates?

A. Mr. Baudino has accepted the Company's proposed thirteen-month average capital structure for the fully forecasted test year ending December 31, 2025, which consists of 52.64 percent common equity, 45.53 percent long-term debt, and 1.83

[5] Id.
[6] Id., at 36.

percent short-term debt.[7] Mr. Baudino has also accepted the Company's proposed short-term debt cost rate of 5.25 percent, but has slightly reduced the Company's proposed long-term debt cost rate from 4.88 percent to 4.84 percent to account for updated cost rates for Columbia's projected debt issuances.

Q. What recommendation has Mr. Baudino made in this proceeding with regard to Columbia's overall cost of capital?

A. Based on the aforementioned capital structure ratios, debt cost rates and Mr. Baudino's recommended cost of equity of 9.60 percent, he has recommended a cost of capital of 7.35 percent in this proceeding.[8]

Q. Please provide an overview of the analytical models and methods that Mr. Baudino employed in conducting his cost of equity evaluation and also the results of his evaluation.

In conducting his cost of equity evaluation, Mr. Baudino applied a constant growth DCF model analysis ("Discounted Cash Flow" or "DCF" analysis), and a Capital Asset Pricing Model ("CAPM") analysis to the gas proxy group he developed, which consists of seven publicly-traded gas utility holding companies. Mr. Baudino's gas proxy group includes six of the same companies that I included in

[7] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 3.
[8] Id., at 4.

my gas proxy group (the "Gas LDC Group"), however, he also included Chesapeake Utilities ("CPK") in his proxy group. I will discuss the concerns that I have with including CPK in a gas utility proxy group later in my rebuttal testimony.

In regard to his constant growth DCF model analysis, Mr. Baudino evaluated both average growth rates (Method 1) and median growth rates (Method 2), and then combined these values with the applicable expected dividend yield.[9] In regard to his CAPM evaluation, Mr. Baudino conducted analyses that are based on (1) a forward-looking market return and market risk premium; (2) the historical market risk premium using several approaches; and (3) various surveys and publications that attempt to estimate the expected market risk premium.

In developing his forward-looking market return and market risk premium estimates, Mr. Baudino relied upon the median estimated dividend yield and 3-5 year price appreciation potential data reported in the *Value Line Summary and Index* for the Value Line 1,700 stock universe.[10] In essence, Mr. Baudino utilized this data from Value Line to conduct a DCF analysis of the overall stock market index,

[9] Id., at Exhibit RAB-3 (p. 2).

[10] Id., at Exhibit RAB-4 (p.1). According to Value Line, this 1,700 stock universe accounts for approximately 90% of the market capitalization of all stocks traded on U.S. stock exchanges.

which produced an estimate of the expected market return. After subtracting his assumed risk-free rate of return from the expected market return, Mr. Baudino was able to derive an estimate of the expected market risk premium and a cost of equity estimate for Columbia.

With respect to Mr. Baudino's historically-focused CAPM analyses, he evaluated three general approaches to derive the historical market risk premium: (1) the long-run historical arithmetic average annual market return and market risk premium for large-capitalization stocks for the period between 1926-2023 (generally referred to as the "Ibbotson Approach")[11]; (2) "supply side" estimates of the historical market risk premium, both with and without an adjustment for "World War II Bias"[12]; and (3) various surveys and publications which attempt to estimate the market risk premium.[13] Based upon his application of the aforementioned analytical models and methodologies, Mr. Baudino's cost of equity results for his gas proxy group were determined to be as reflected in Table VVR-1R below:[14]

[11] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 25-26 and Exhibit RAB-4 (p. 2).
[12] Id., at 26-27 and Exhibit RAB-4 (p. 2).
[13] Id., at 27-29 and Exhibit RAB-4 (p. 3).
[14] Also see Table 1 (p. 31) in Mr. Baudino's direct testimony.

Table VVR-1R AG Witness Baudino's Cost of Equity Estimates and Recommendations Gas LDC Group	
Method / Analytical Model	Model Result
Constant Growth DCF Model - Average	9.61%
Constant Growth DCF Model - Median	9.84%
CAPM – Forward-Looking Market Return	
Value Line Forward-Looking MRP	10.94%
CAPM – Historical Risk Premium	
Arithmetic Mean	10.79%
Supply Side MRP	9.95%
Supply Side MRP (less WWII bias)	9.09%
CAPM – MRP Based on Surveys and Studies	
Kroll MRP	8.88%
KPMG MRP	8.88%
IESE MRP Survey	9.32%
Damodaran MRP	8.34%
Cost of Equity Range Estimate for Columbia Gas of Kentucky (Baudino)	
DCF Model	8.47% - 10.51%
CAPM Model	8.90% - 10.00%
Cost of Equity Recommendation for Columbia Gas of Kentucky (Baudino)	9.60%

As reflected in Table VVR-1R above, Mr. Baudino's evaluation yielded a range estimate of Columbia's cost of equity of between 8.47 percent and 10.51 percent under his constant growth DCF analyses, and between 8.90 percent and 10.00 percent under his CAPM analyses. Based on his evaluation, Mr. Baudino has recommended a point estimate of the cost of equity of 9.60 percent in this proceeding.

Q. What is your initial reaction to Mr. Baudino's recommended cost of equity for Columbia?

A. After reviewing Mr. Baudino's testimony and supporting exhibits, I have concluded that his estimates of Columbia's cost of equity are flawed, and are the product of a misapplication of the cost of equity analytical models that he has referenced. I will further discuss the shortcomings that I found in Mr. Baudino's cost of equity recommendations later in the DCF and CAPM sections of my rebuttal testimony

III. The Cost of Equity Recommendation of AG Witness Baudino Would Not Allow Columbia the Opportunity to Earn a Fair Rate of Return as Compared to Other Gas Distribution Companies

Q. How does Mr. Baudino's ROE recommendation of 9.60 percent compare to the national averages of authorized ROEs granted to gas utilities during 2023 and 2024?

A. Mr. Baudino's ROE recommendation of 9.60 percent falls below the recent national averages of authorized ROEs for gas utilities, which was 9.83 percent during the first-half of 2024 and 9.64 percent during 2023.[15]

[15] *Major Energy Rate Case Decisions in the U.S. - January-June 2024,* Regulatory Research Associates, S&P Global Market Intelligence, July 29, 2024, at 3-4.

Q. How does Mr. Baudino's ROE recommendation of 9.60 percent compare to the authorized ROEs granted to Kentucky's utilities during 2023 and 2024?

A. Although there were not any general gas rate proceedings in Kentucky where an authorized ROE decision was made during 2023 and 2024, the Commission did make ROE decisions in two electric rate proceedings during this time. Specifically, in both the Duke Energy case (Case No. 2022-00372), which was a fully litigated proceeding, and the Kentucky Power case (Case No. 2023-00159), which was a settled proceeding, the Commission authorized a ROE of 9.75 percent.

Q. Is Mr. Baudino's ROE recommendation consistent with the comparable earnings standard or the concept of the opportunity cost of capital?

A. No. Considering that the national average of authorized ROEs for gas utilities have gradually trended upward during 2023-2024 to the most recently reported level of 9.83 percent[16], Mr. Baudino's recommended cost of equity of 9.60 percent is inconsistent with the comparable earnings standard. Relatedly, the opportunity cost of capital is defined as the highest available return on an alternative investment of comparable risk. Considering that Mr. Baudino's cost of equity recommendation is materially below the national average of recently authorized ROEs for gas utilities, his recommendation is also inconsistent with the concept of the opportunity cost of capital. However, Mr. Baudino would in fact appear to

[16] Id.

recognize the concept of opportunity cost, at least theoretically, and this is demonstrated by the fact that Mr. Baudino makes the following statement in his direct testimony:

> From an economist's perspective, *the notion of "opportunity cost" plays a vital role in estimating the ROE. One measures the opportunity cost of an investment equal to what one would have obtained in the next best alternative*. For example, suppose that an investor decides to purchase the stock of a publicly-traded regulated gas utility. That investor will make the decision based on the expectation of dividend payments and perhaps some appreciation in the stock's value over time; however, *that investor's opportunity cost is measured by what she or he could have invested in as the next best alternative. That alternative could have been another utility stock*, a utility bond, a mutual fund, a money market fund, or any other number of investment vehicles (emphasis added).[17]

Therefore, because Mr. Baudino's recommended cost of equity in this proceeding is materially lower than the recent national average of authorized ROEs for gas utilities, his recommendation would appear to contradict his above statements. This is particularly the case because the authorized ROEs of gas utilities have continued to trend gradually upward during 2024.

IV. <u>Update on U.S. Economic and Capital Market Conditions</u>

Q. Please provide an update on the recent trends in the U.S. economy and the capital markets.

A. In spite of the Federal Reserve Board's best efforts over the past few years to rein-

[17] Direct Testimony of Richard A. Baudino, Case No. 2024-00092, at 5.

in the marked increase in the inflation rate by slowing the U.S. economy, the economy nevertheless continued to expand at a fairly robust pace during the first half of 2024. The U.S. Bureau of Economic Analysis (the "BEA") recently reported that the real GDP growth rate for Q2, 2024 was 2.8 percent on an annualized basis, while the real GDP growth rate for calendar-year 2023 was 2.5 percent. However, the U.S. Labor Department's July 2024 labor market report provided some indication that the U.S. economy may now be slowing, as only 114,000 new jobs were added to the U.S economy during July 2024 (180,000 new jobs were expected by many economists) and the U.S. unemployment rate ticked- up to 4.3 percent.

With regard to the U.S. inflation rate, the U.S. Labor Department recently reported that for the period ending July 2024, the 12-month change in the Consumer Price Index (CPI) was 2.9 percent, while the 12-month change in the core CPI, which excludes volatile food and energy prices, was 3.2 percent. When viewed from a recent historical perspective, the July 2024 inflation data continues to reflect an downward trend line moderation for the U.S. inflation rate, particularly when compared to the 40-year high level of inflation recorded during the summer of 2022.[18]

[18] For example, during June 2022, the annualized consumer price index (CPI) rose to a 40-year high level of 9.1 percent.

Meanwhile, as noted earlier, the U.S. unemployment rate has recently begun to trend upward, registering a 4.3 percent rate during July 2024, which has increased materially from the 3.7 percent unemployment rate seen at the end of 2023. The recent softening of the labor market is further reflected in the gradually declining wage gains of U.S. workers, as average hourly earnings increased by 3.6 percent on a year-over-year basis through July 2024, while as of December 2023, the year-over-year increase in average hourly earnings was 4.1 percent. Although it remains to be seen whether the U.S. economy is actually heading into a recessionary period, recent data with respect to both the labor market and the inflation rate seems to suggest that the U.S. economy may be softening to some degree. This suggests that the Federal Reserve's recent monetary policy tightening actions may now be close to achieving the Fed's policy objective of slowing the U.S. economy enough to rein-in the recent marked increase in the U.S. inflation rate.

Q. What actions did the Fed take during the July 30 - July 31, 2024 FOMC meeting?

A. During the July 30 - July 31, 2024 FOMC meeting, the Fed once again left the Federal Funds target rate unchanged at 5.25 - 5.50 percent, and stated the following in its post-meeting press release:

> Recent indicators suggest that economic activity has continued to expand at a solid pace. Job gains have moderated, and the

> unemployment rate has moved up but remains low. Inflation has eased over the past year but remains somewhat elevated. In recent months, there has been some further progress towards the Committee's 2 percent inflation objective.
>
> The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. The Committee judges that the risks to achieving its employment and inflation goals continue to move into better balance. The economic outlook is uncertain, and the Committee is attentive to the risks to both sides of its dual mandate.
>
> In support of its goals, the Committee decided to maintain the target range for the federal funds rate at 5-1/4 to 5-1/2 percent. In considering any adjustments to the target range for the federal funds rate, the Committee will carefully assess incoming data, the evolving outlook, and the balance of risks. The Committee does not expect it will be appropriate to reduce the target range until it has gained greater confidence that inflation is moving sustainably toward 2 percent.[19]

Q. Were there any noted changes in the Fed's guidance regarding the future direction of the Federal Funds target rate after the July 30 - July 31, 2024 FOMC meeting?

A. Yes. As discussed earlier, in the Fed's July 31, 2024 press release, the FOMC indicated that U.S. inflation remained "somewhat elevated", which was a notable departure from the Fed's previous press releases over the past year, where the Fed on multiple occasions indicated that inflation simply remained "elevated". In the

[19] *Federal Reserve Issues FOMC Statement*, Federal Reserve Press Release, July 31, 2024, at 1. Available at: https://www.federalreserve.gov/newsevents/pressreleases.

same July 31, 2024 press release, the Fed also indicated that the central bank was now focused on *both* the risks to employment as well as the risks to inflation (both components of the Fed's "dual mandate"), whereas in the Fed's previous press releases over the past year the Fed only discussed inflation risks. The change in the tone of these statements indicates that the Fed is becoming increasingly comfortable that the U.S. inflation rate is gradually declining to a level that is generally consistent with the Fed's 2.0 percent stated target rate.

It is also noteworthy that during the Fed's post-FOMC meeting press conference on July 31, 2024, Fed Chair Powell, in response to a question raised as to whether a reduction to the Federal Funds target rate was likely at the Fed's next FOMC meeting scheduled for September 17-18, 2024, Chair Powell responded as follows:

> So, on September, let me say this, we have made no decisions about future meetings and that includes the September meeting. The broad sense of the Committee is that the economy is moving closer to the point at which it will be appropriate to reduce our policy rate. In that, we will be data dependent but not data point dependent, so it will not be a question of responding specifically to one or two data releases. The question will be whether the totality of the data, the evolving outlook, and the balance of risks are consistent with rising confidence on inflation and maintaining a solid labor market. If that test is met, a reduction in our policy rate could be on the table as soon as the next meeting in September.[20]

[20] Transcript of Chair Powell's Press Conference, July 31, 2024, at 4. Available at: https://www.federalreserve.gov/mediacenter/

Q. In view of the fact that the Fed elected to reduce the Federal Funds target rate by 0.50 percent (50 basis points) during the September 17-18, 2024 FOMC meeting, does this mean that long-term interest rates will decline materially going forward?

A. No, not necessarily. The Federal Funds target rate represents the overnight intra-bank borrowing rate that Federal Reserve member banks charge one another for overnight borrowings to cover their reserve requirements, and therefore represents the far short-end of the fixed-income yield curve. In contrast, long-term interest rates are more directly impacted by the long-term real return and inflation expectations of the bond markets.

V. Discussion of the Proxy Groups

Gas Proxy Groups

Q. Although Mr. Baudino's gas proxy group includes six of the same companies that you included in your Gas LDC Group, he also included Chesapeake Utilities ("CPK") in his proxy group. Do you agree that it is appropriate to include CPK in a gas proxy group for purposes of this proceeding?

A. No. In my response to the Attorney General's First Request for Information, No. 187, I explained that CPK was excluded from the Gas LDC Group for the two following reasons: (1) CPK does not currently have long-term credit ratings from either S&P or Moody's; and (2) CPK's operating income from regulated gas utility

operations, expressed as a percentage of consolidated operating income, falls below the minimum 50 percent threshold that I established in developing the Gas LDC Group. Although Mr. Baudino argues that after reviewing CPK's 2023 annual report, he did not find any evidence which suggests that CPK would not have an investment grade rating,[21] this is only speculative on his part. In my judgment, it is more appropriate to rely upon the objective and verifiable credit ratings disseminated by the major rating agencies to ensure that the companies being considered for inclusion in a proxy group are closely-comparable on a total risk basis. In this regard, it is noteworthy that as a matter of standard procedure, the rating agencies conduct comprehensive evaluations of a company's total investment risk profile, which for utility companies includes business risks, regulatory risks and financial risks.

Mr. Baudino also suggests that because 70.6 percent of CPK's revenue is derived from regulated energy operations, this justifies including CPK in his gas proxy group.[22] In my judgment, considering that Columbia is fundamentally a "pure-play" gas distribution company, the core proxy group referenced in this proceeding should reflect pure-play gas distribution operations as closely as

[21] *Direct Testimony of Richard A. Baudino,* Case No. 2024-00092 (August 14, 2024), at 16.
[22] Id.

reasonably possible. In contrast, CPK's regulated energy segment includes gas transmission and electric utility operations, which account for a significant portion of CPK's consolidated revenues and net income. Notably, CPK's gas distribution operations only account for 34.2 percent of the company's consolidated net income, while its gas transmission and electric operations account for 41.2 percent and 4.3 percent of the company's consolidated net income, respectively. In addition, CPK's unregulated and other business operations account for the remaining 20.3 percent of the company's consolidated net income. Clearly then, CPK's consolidated business operations do not predominately reflect the business operations of a pure-play gas distribution company.

Q. In your judgment, should the Commission rely upon Mr. Baudino's gas proxy group in this proceeding?

A. No. Although our respective gas proxy groups produce similar estimates of Columbia's cost of equity, for the reasons noted earlier, I disagree with Mr. Baudino's decision to include CPK in his gas proxy group. Therefore, for purposes of this proceeding, I recommend that the Commission rely upon the Gas LDC Group, which does not include CPK.

Q. When considered in isolation, does Mr. Baudino's inclusion of CPK in his gas proxy group result in a significant disparity in his cost of equity estimates as

compared to only referencing the six companies comprising the Gas LDC Group?

A. As noted earlier, I disagree with Mr. Baudino's decision to include CPK in his gas proxy group. However, on an overall basis, this decision did not result in a significant disparity in his cost of equity estimates as compared to only evaluating the six companies included in the Gas LDC Group. That said, including CPK in the gas proxy group resulted in a slight upward bias in Mr. Baudino's DCF-based estimates of the cost of equity, while it resulted in a slight downward bias in his CAPM-based estimates of the cost of equity.

Combination Utility Group

Q. Did Mr. Baudino also conduct a cost of capital evaluation based upon the Combination Utility Group that you developed? If yes, what were the results of his evaluation?

A. Yes, Mr. Baudino conducted a DCF analysis for the Combination Utility Group, which is presented in Exhibit RAB-5 and Exhibit RAB-6 to his direct testimony. However, Mr. Baudino did not to conduct a CAPM analysis for the Combination Utility Group because its average beta coefficient (0.90) was slightly higher than the average beta coefficient for his gas proxy group (0.88).[23] According to Mr. Baudino, this would have therefore yielded higher CAPM estimates of the cost of

[23] *Direct Testimony of Richard A. Baudino,* Case No. 2024-00092 (August 14, 2024), at 33.

equity as compared to his gas proxy group.[24] In my judgment, Mr. Baudino should have also conducted a CAPM analysis of the Combination Utility Group, since doing so would have only improved the reliability of his analytical results. At the same time, it would have also resulted in higher CAPM-based estimates of Columbia's cost of equity, which further suggests that Mr. Baudino's CAPM results in this proceeding are downwardly-biased.

With respect to Mr. Baudino's application of the DCF model to the Combination Utility Group, he has concluded that his results for the Combination Utility Group are very close to those of his gas proxy group[25]. These results provide further evidence that the investment risk profile of the Combination Utility Group is closely-comparable to the respective gas proxy groups referenced in this proceeding, and therefore should be given due consideration.

[24] Id.

[25] Id. As reflected in Exhibit RAB-3 (p. 2), Mr. Baudino's DCF analysis for his gas proxy group yields average cost of equity estimates of 9.61 percent under his average growth rate approach and 9.84 percent under his median growth rate approach. As reflected in Exhibit RAB-6 (p. 2), Mr. Baudino's DCF analysis for the Combination Utility Group yields average cost of equity estimates of 9.60 percent under his average growth rate approach and 9.88 percent under his median growth rate approach.

VI. DCF Methodologies are Flawed and the Results are Understated

Q. What significant shortcomings did you identify in Mr. Baudino's DCF analyses?

A. The significant shortcomings that I identified in Mr. Baudino's DCF analyses include: (1) reliance upon dividend-per-share (DPS) growth projections, which, as demonstrated by the finance literature, are not widely-referenced by investors; (2) failure to incorporate DCF estimates which reference the market and financial data of a broader group of comparable companies in order to improve the reliability of his results; and (3) failure to adopt a financial leverage adjustment to recognize the higher level of financial risk associated with the book value based capital structure used for rate-setting purposes. Collectively, these shortcomings caused Mr. Baudino's cost of equity range estimate under the DCF method, which ranged from 8.47 percent to 10.51 percent, to be significantly understated.

Q. Do you agree with the approach that Mr. Baudino employed in establishing an appropriate dividend yield to reference in implementing the DCF constant growth model?

A. No, not entirely. As reflected Exhibit RAB-3 (pp. 1-2) to Mr. Baudino's testimony, he references the overall average growth rate for the gas proxy group to adjust the current dividend yield to reflect the expected dividend yield over the next 12-months. In my judgment, Mr. Baudino should have calculated both the dividend yield component and the growth component of the DCF model on an individual-

company basis to ensure that the resulting cost of equity estimates are properly specified. Nevertheless, I have further determined that in the instant proceeding, if Mr. Baudino had taken an individual-company approach as noted earlier, the resulting estimates from our respective approaches would be similar enough that it would not constitute a point of contention in this proceeding.

Q. Do you agree with Mr. Baudino's use of the DPS growth projections reported by Value Line in his constant growth DCF analyses?

A. No. In my judgment, Mr. Baudino has confused the strict theoretical underpinnings of the DCF constant growth model with the practical implementation of that model in the real world. If investors actually relied upon DPS growth rate estimates in forming their return expectations for common stocks, they would clearly demand this information, however, they do not. DPS growth projections are not widely-referenced by institutional investors, and to my knowledge, very few, if any, of the sell-side equity analysts that work for the major U.S. banks and brokerage firms disseminate DPS growth estimates to their investor clients. Mr. Baudino concedes this very point in his direct testimony, where he states the following:

> ….Value Line is the only source of which I am aware that forecasts dividend growth.[26]

[26] Direct Testimony of Richard A. Baudino, Case No. 2024-00092, at 19.

The most relevant measure of growth for purposes of the constant growth DCF model is the growth rate that investors actually expect, and therefore incorporate into their investment decisions. Contrary to the implicit assumption made by Mr. Baudino, which is that investors place a significant emphasis on the DPS growth estimates reported by Value Line, a substantial body of evidence indicates otherwise. The academic research[27] has demonstrated that it is actually the consensus earnings estimates of equity analysts that exert a significant influence over stock valuations, and therefore on the return expectations of investors. Morin discusses the propriety of referencing the EPS growth estimates of equity analysts in the constant growth DCF model in *Modern Regulatory Finance,* where he states:

> Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, *they are a cause of g*.

[27] See, Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return*, Financial Management, (Spring 1986), at 59, 66; James H. Vander Weide and William T. Carleton, *"Investor Growth Expectations: Analysts vs. History,"* The Journal of Portfolio Management (Spring 1988), at 4; Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *The Risk Premium Approach to Measuring a Utility's Cost of Equity,* Financial Management (Spring 1985), at 36; E.J. Elton, M.J. Gruber and J. Gultekin, "*Expectations and Share Prices"*, Management Science (September 1981) at 975-981; K.L. Stanley, W.G. Lewellen, and G.G. Schlarbaum, *"Further Evidence on the Value of Professional Investment Research"*, Journal of Financial Research (Spring 1981), at 1-9; Roger A. Morin, *Modern Regulatory Finance* (PUR Books LLC, 2021), at 371-372; Jing Liu, Doron Nissim and Jacob Thomas, *Equity Valuation Using Multiples*, Journal of Accounting Research, Vol. 40, No. 1, March 2002; Cristi A. Gleason, W. Bruce Johnson, Haidan Li, *Valuation Model Use and the Price Target Performance of Sell-Side Equity Analysts*, Contemporary Accounting Research (Volume 30, Issue 1, Spring 2013).

> ….because it is present investor expectations that are being priced, *it is the consensus forecast that is embedded in price and therefore the required return, and not the future as it will turn out to be*. (emphasis added)[28]

The fact that EPS growth estimates are a primary determinant of stock valuations is further demonstrated in a widely-referenced article published in the *Financial Analysts Journal*, wherein professional investment analysts were surveyed. The survey results showed that a company's earnings and cash flow estimates are the factors that are most heavily referenced by investment analysts in forming their stock valuation opinions. In contrast, dividends ranked at the very bottom of the list of the factors that investment analysts consider in forming their valuation opinions. Specifically, the authors stated the following with regard to the importance of dividends:

> The respondents were also asked to determine the relative importance of other inputs in analyzing securities. Table 6 shows how the survey participants ranked the importance of earnings, cash flow, book value, and dividends.
> …
> Earnings and cash flow are considered far more important than book value and dividends. *The lack of importance these respondents assigned to dividends is interesting. As reported in Table 6, only 3 of the 297 respondents considered dividends to be the most important variable in valuing a security* (emphasis added).[29]

[28] Roger A. Morin, Modern Regulatory Finance (PUR Books LLC, 2021), at 371-372. (Emphasis added).

[29] Stanley B. Block, "A Study of Financial Analysts; Practice and Theory", Financial Analysts Journal, (July-August, 1999), at 88-89.

The conclusion drawn from this survey of professional analysts is only logical, as a company's earnings are the very source of both its dividend payments and retained earnings, and for this reason, EPS growth estimates provide a more complete picture of the future growth expectations of investors.

Villadsen, Vilbert, Harris and Kolbe provide further support for this finding in Risk and Return for Regulated Industries, an authoritative guide on utility cost of capital matters, where the authors state the following:

> ….forecasts of EPS from security analysts are the best available information on forecast growth rates for the DCF model.
> ….
> In the constant growth version of the DCF model, the growth rates of dividends, earnings, and the stock price are all expected to be equal and constant….*In any case, EPS growth is the fundamental parameter because dividends are ultimately paid from earnings, so dividends cannot grow in the long term at a rate that exceeds EPS growth*. Dividends can grow at a slower rate if the company is reinvesting a larger portion of its earnings, but this sets the stage for an increased rate of dividend growth in the future (emphasis added)[30]

Therefore, considering that the finance literature has clearly demonstrated that the EPS growth estimates of sell-side equity analysts have a significant influence on the investment decisions of both institutional and individual investors, they

[30] Bente Villadsen, Michael J. Vilbert, Dan Harris and A. Lawrence Kolbe, Risk and Return for Regulated Industries, Academic Press, Elsevier, Inc. (2017), at 99.

represent the most appropriate measure of expected earnings and dividend growth for purposes of the constant growth DCF model.

Q. Do the DPS growth rates referenced in Exhibit RAB-3 (pp. 1-2) to Mr. Baudino's testimony reflect the full extent of the future growth expectations of equity investors?

A. No. Mr. Baudino's DPS growth rate assumptions are as much as *200 basis points* lower than the EPS growth rate assumptions reflected in Exhibit RAB-3 (p. 2). For example, while Mr. Baudino references a 6.50 percent median EPS growth rate estimate from Value Line, he also references a 4.50 percent median DPS growth rate estimate from Value Line. This is a significant disparity, which strongly suggests that Mr. Baudino's DPS growth rate estimates do not fully reflect the growth expectations of equity investors. It is important to recognize that a company's *earnings* are the source of both its dividend payments and its retained earnings, and for this reason, only EPS growth estimates provide a complete picture of the future growth expectations of investors.

This is particularly the case because, as reflected in Table VVR-2R below, the Gas LDC Group companies are currently projecting an average annual rate base growth rate of 8.50 percent over the next five years. The earnings growth rates of regulated utilities are to a significant degree impacted by a utility's rate base

growth. This clearly suggests that the EPS growth rates for the Gas LDC Group companies will exceed Mr. Baudino's DPS growth rate estimates by a significant margin over the next five years. At the same time, the anticipated robust levels of capital investment and rate base growth for the Gas LDC Group companies further suggests that these utilities will need to moderate their dividend growth rates over the next five years in order to finance their anticipated rate base investments. This to a significant degree explains why Mr. Baudino's DPS growth estimates are significantly lower than his EPS growth estimates. It also explains why DPS growth estimates do not likely reflect the full extent of the growth expectations of equity investors. Table VVR-2R below illustrates the large disparity between the dividend growth rates that Mr. Baudino has referenced in his DCF analyses, and the anticipated levels of both rate base growth and earnings growth for the Gas LDC Group companies.

Table VVR-2R
Anticipated Rate Base and Earnings Growth Rates for the Gas LDC Group Companies Compared to Mr. Baudino's DPS Growth Rate Assumptions

Gas LDC Group Company	Rate Base Growth 2023-2028	Projected EPS Growth Yahoo Finance (1)	Projected EPS Growth Zacks (1)	Projected EPS Growth Value Line (2)
Atmos Energy	12.00%	7.40%	7.00%	7.00%
New Jersey Resources	n/a	6.00%	n/a	5.00%
NiSource Inc.	9.00%	7.50%	6.00%	9.50%
Northwest Natural Gas	6.00%	2.80%	n/a	6.50%
ONE Gas	8.00%	5.00%	5.00%	3.50%
Spire Inc.	7.50%	6.36%	5.00%	4.50%
Avg. Growth Rate for Gas LDC Group Companies	8.50%	5.84%	5.75%	6.00%
Mr. Baudino's DPS Growth Rate Assumptions	4.50% (median) 4.64% (average)	4.50% (median) 4.64% (average)	4.50% (median) 4.64% (average)	4.50% (median) 4.64% (average)

(1) Data accessed August 23, 2024.
(2) Value Line Investment Survey, August 23, 2024.
n/a - data not available.

Q. To what degree would Mr. Baudino's DCF-based cost of equity estimates change if he had focused his analysis on the EPS growth estimates of equity analysts, which is the approach supported by the finance literature?

A. I present this comparison in Table VVR-3R below.[31] Mr. Baudino's DCF estimate under his average growth rate approach would have been 9.93 percent, rather than 9.61 percent, while his DCF estimate under the median approach would have been 10.29 percent, rather than 9.84 percent. This provides further evidence that Mr. Baudino's cost of equity estimates under the DCF constant growth method are materially understated by as much as 45 basis points.

Table VVR-3R
Mr. Baudino's DCF Estimates of the Cost of Equity Based on the EPS Growth Estimates of Equity Analysts

DCF Model Component	Value Line EPS Growth	Zack's EPS Growth	Yahoo! EPS Growth	Average of EPS Growth Rates
Method 1:				
Dividend Yield	3.89%	3.89%	3.89%	3.89%
Average Growth Rate	6.07%	5.63%	6.09%	5.93%
Expected Div. Yield	4.00%	4.00%	4.01%	4.00%
DCF Return on Equity	**10.07%**	**9.63%**	**10.10%**	**9.93%**
Method 2:				
Dividend Yield	3.89%	3.89%	3.89%	3.89%
Median Growth Rate	6.50%	6.00%	6.36%	6.29%
Expected Div. Yield	4.01%	4.00%	4.01%	4.00%
DCF Return on Equity	**10.51%**	**10.00%**	**10.37%**	**10.29%**

[31] The data referenced in Table VVR-3R was sourced from Exhibit RAB-3 (p. 2) to Mr. Baudino's direct testimony.

Response to Mr. Baudino's Criticisms of My DCF Analyses

Q. Mr. Baudino maintains that you should have also considered Value Line's dividend growth forecasts in your DCF analyses. How do you respond?

A. I have already addressed this topic at length in my response to Mr. Baudino's DCF analysis.

Q. Mr. Baudino maintains that your market value financial risk adjustments are unwarranted because market prices can deviate from book value for any number of reasons.[32] How do you respond?

A. I disagree. Mr. Baudino would appear to imply that the market-value financial risk adjustments that I included in my DCF analyses amount to a so-called market-to-book adjustment, which it does not. Rather, it is a financial risk adjustment that recognizes, in accordance with the finance literature, that companies with different capital structures will by definition have different financial risk profiles. This concept also applies to capital structures stated at market value versus book value for the same company.

Q. Mr. Baudino further maintains that for ratemaking purposes, "the return on equity must be determined using current market data, and then applied to the percentage of equity in the capital structure based on book value".[33] How do

[32] Direct Testimony of Richard A. Baudino, Case No. 2024-00092, at 42.
[33] Id, at 42.

you respond?

A. Although the approach that Mr. Baudino describes is a common approach in utility rate proceedings, it should be noted that, in the absence of any further adjustments, this approach does not adequately recognize the difference in financial risk between a capital structure stated at market-value and a capital structure stated at book-value. In this regard, Mr. Baudino fails to recognize that when the market-based cost of equity analytical models were originally developed, the creators of these models did not specifically contemplate that the market-based cost of equity estimates derived from these models would be applied to a book value based capital structure for utility ratemaking purposes, which almost invariably has a higher financial risk profile as compared to the utility's market-value based capital structure. Therefore, the financial risk adjustments that I have proposed are necessary to recognize the increase in financial risk which results when a market-based cost of equity estimate, which corresponds to a market-value based capital structure, is applied to a utility's book value based regulatory capital structure.

Q. Mr. Baudino alleges that you have not provided any evidence that financial risk is assessed based on the market value of common equity.[34] How do you respond?

A. I disagree. Appendix C to my direct testimony cites to the research of Modigliani and Miller ("M&M")[35] and Hamada[36], each of which evaluated market-value based capital structures in their research, not book-value based capital structures. In fact, the finance literature has long recognized that to properly analyze the effects of financial leverage on the cost of capital, market values must be considered, not backward looking book values.

Villadsen, Vilbert, Harris and Kolbe provide an excellent summary of this concept in *Risk and Return for Regulated Industries,* where the authors state the following:

> The risk that debt imposes on equity depends on market values, not book values.
> ….
> Market risk and, therefore, the cost of equity thus depend directly on the market value capital structure of the company or asset in question. It is impossible to make a valid comparison among the measured costs of equity of different companies without taking capital structure into account. Capital structure and the cost of equity are unbreakably linked, and any effort to treat the two as separate and distinct quantities violates both everyday experience

[34] Id., at 43.

[35] *See,* Franco Modigliani and Merton H. Miller, "Taxes and the Cost of Capital: A Correction," *American Economic Review,* 53 (June 1963), 433-443; Franco Modigliani and Merton H. Miller, *The Cost of Capital, Corporation Finance and the Theory of Investments, American Economic Review* 48 (June 1958) at 261-297.

[36] Robert S. Hamada, The Effect of the Firm's Capital Structure on the Systematic Risk of Common Stocks," *The Journal of Finance,* 27 (May 1972) at 435-452.

(e.g. with home mortgages) and basic financial principles.[37]

Furthermore, while discussing the effects of financial risk on the cost of equity in their widely-referenced textbook *Principles of Corporate Finance*, Brealey, Myers and Allen make it abundantly clear that market-value based capital structures must be examined, not book-value based capital structures.[38] In fact, when discussing the proper approach to calculating a company's weighted-average cost of capital in *Principles of Corporate Finance*, the authors present both a book-value and a market-value based balance sheet for the hypothetical company they evaluate in this section of their textbook. The authors then observe:

> Why did we show the book balance sheet? Only so you could draw a big X through it. Do so now. When estimating the weighted-average cost of capital, you are not interested in past investments but in current values and expectations for the future.[39]

Thus, while Mr. Baudino maintains that a market value leverage adjustment is not necessary because investors are aware that utilities are regulated on the basis of their book values, he fails to acknowledge that investors and stock analysts evaluate both risk and return on an equivalent valuation basis. In fact, the implication of Mr. Baudino's statement is that while investors evaluate investment

[37] B. Villadsen, M. Vilbert, D. Harris and L. Kolbe, *Risk and Return for Regulated Industries* (Academic Press-Elsevier Inc., 2017), at 142-143.

[38] Richard A. Brealey, Stewart C. Myers, and Franklin Allen. *Principles of Corporate Finance, Concise Edition*, McGraw Hill / Irwin, 2011, pp. 332-333.

[39] Id. pp. 378-379.

returns on the basis of the market value of their investments, they inexplicably choose to evaluate investment *risk* on a book value basis. This is not only illogical, but is also inconsistent with fundamental investment principles, which state that an investment's risk and return are closely interrelated, suggesting that the basis upon which both risk and return are evaluated should be consistent and inseparable. In this regard, Mr. Baudino has failed to acknowledge the fact, that, as aptly stated by Morin: *"the capital structure used to estimate the cost of equity is an integral inseparable part of that estimate."*[40]

Q. Mr. Baudino has rejected your proposed flotation cost adjustment, arguing that stock prices "most likely[41]" already account for flotation costs, and as a result, adding an adjustment for flotation costs amounts to "double counting[42]". How do you respond?

A. Mr. Baudino's statement that adding a flotation cost adjustment constitutes a "double counting" of equity issuance costs is inconsistent with the underlying assumptions of the cost of equity models evaluated in utility rate proceedings. In this regard, Mr. Baudino has failed to recognize that a critical underlying assumption of the cost of equity analytical models is that there are *no transaction costs*. For example, a key assumption underlying the DCF constant growth model

[40] Roger A. Morin, *Modern Regulatory Finance* (PUR Books LLC, 2021), at 521.
[41] Direct Testimony of Richard A. Baudino, Case No. 2024-00092, at 43.
[42] Id. at 44.

is that there is *no external financing*, and therefore, by definition, there are no flotation costs. Likewise, a key assumption underlying the CAPM is also that there are *no transaction costs*. Therefore, due to the inability of the cost of equity models to incorporate transaction costs into the cost of equity estimation process, it is entirely appropriate to make a separate adjustment for flotation costs, as I have proposed in the instant proceeding.

Furthermore, in *Modern Regulatory Finance*, Morin provides additional perspective as to why it is erroneous to reject the use of flotation costs in utility regulatory proceedings on the grounds of an "efficient markets" argument, which is essentially the argument being made by Mr. Baudino. Specifically, Morin states:

> A third controversy centers around the argument that the omission of flotation costs is justified on the grounds that, in an efficient market, the stock price already reflects any accretion or dilution resulting from new issuances of securities and that a flotation cost adjustment results in a double counting effect. *The simple fact of the matter is that whatever stock price is set by the market, the company issuing stock will always net an amount less than the stock price due to the presence of flotation costs. As a result, the company must earn slightly more on its reduced rate base in order to produce a return equal to that required by shareholders* (emphasis added).[43]

Therefore, consistent with the foregoing arguments, Columbia should be entitled to earn a "return on" the flotation costs incurred in recent years, or that are expected to be incurred in the foreseeable future. Accordingly, the Company's

[43] Roger A. Morin, *Modern Regulatory Finance* (PUR Books LLC, 2021), at 341.

proposed adjustment to the cost of equity of 4-5 basis points, which would appropriately provide a "return-on" the Company's flotation costs, is fully supported and should be adopted by the Commission.

VII. CAPM Methodologies are Flawed and the Results are Understated

Q. What significant shortcomings did you identify in Mr. Baudino's CAPM analysis?

A. The significant shortcomings that I identified in Mr. Baudino's CAPM analyses include: (1) relying upon recent historical U.S. Treasury security yields as a proxy for the risk-free rate of return, thereby failing to recognize that the CAPM is a forward-looking ex-ante model that requires forward-looking expectational inputs; (2) improper reliance upon "supply side" approaches to estimating the market risk premium, which are subject to subjective bias and forecasting errors; (3) failure to recognize that the beta coefficients referenced in the CAPM should reflect the higher level of financial risk associated with a utility's book-value based regulatory capital structure; (4) failure to recognize substantial empirical evidence supporting the use of both the CAPM with size adjustment and the ECAPM; and (5) failure to also apply his CAPM analysis to a broader group of comparable risk companies, which would have ensured a higher degree of reliability in his cost of equity results.

Q. In his CAPM analysis, Mr. Baudino references a risk-free rate of return assumption of 4.49 percent, which is based on the average historical yield for the 30-year U.S. Treasury bond over the past 6 months. In your judgment, is the 6-month average historical Treasury bond yield an appropriate proxy for the risk-free rate of return for purposes of the CAPM?

A. No. Mr. Baudino's risk-free rate of return assumption is retrospectively-focused, and in most circumstances would be unlikely to also reflect the forward-looking return expectations of equity investors. It is important to recognize that the CAPM is an ex-ante forward-looking model that requires expectational inputs rather than backward-looking inputs. Nevertheless, considering that Mr. Baudino's risk-free rate of return assumption in this proceeding is generally consistent with the most recent long-term interest rate forecasts of leading U.S. economists, I do not believe it would be constructive to debate this topic any further.

Q. In his CAPM analyses, Mr. Baudino derives a range of estimated market risk premium values of between 4.39 percent and 7.35 percent.[44] In your opinion, are Mr. Baudino's estimates of the market risk premium an accurate reflection of the market risk premium in the current market environment?

A. No, not all of his estimates. I present in Table VVR-4R below a brief summary of

[44] Direct Testimony of Richard A. Baudino, Case No. 2024-00092, at 30.

the various market risk premium estimates developed by Mr. Baudino. I will address each of these approaches to estimating the MRP on an individual basis.

Table VVR-4R
Mr. Baudino's Estimates of the Market Risk Premium

Approach to Estimating the MRP	Result
Value Line Forward-Looking MRP	7.35%
Historical Risk Premium	
- Arithmetic Mean	7.17%
- Supply Side Approach	6.22%
- Supply Side Approach Less WWII Bias	5.24%
Kroll MRP	5.00%
KPMG MRP	5.00%
IESE Survey MRP	5.50%
Damodaran (avg.) MRP	4.39%
Range of MRP Estimates	4.39% - 7.35%

Q. Do you agree with Mr. Baudino's implementation of the Value Line forward-looking market risk premium approach, which yields a MRP estimate of 7.35 percent and a cost of equity estimate of 10.94 percent?

A. Yes. Mr. Baudino's implementation of the Value Line forward-looking market risk premium approach is generally consistent with the approach that I employed in developing my estimate of the prospective market risk premium. This approach essentially involves conducting a constant growth DCF analysis for the total stock market index, but within a CAPM analysis. That said, my approach was slightly

different than Mr. Baudino's in that I utilized a hybrid approach that also considered the prospective market return based on the S&P 500 Index. This can be seen in Attachment VVR-11 (p. 1) to my direct testimony. Considering that my estimate of the prospective (or forward-looking) market risk premium (7.32 percent) is almost identical to Mr. Baudino's estimate (7.35 percent), this further corroborates the validity of our respective estimates under this methodology.

This level of corroboration notwithstanding, Mr. Baudino has nevertheless elected to ignore his CAPM-based estimate of the cost of equity (10.94 percent) using this methodology, arguing that it incorporates an "unsustainably high growth rate for the market of 9.73 percent".[45] However, my evaluation of the prospective market risk premium, which also considered the composite EPS growth estimates of institutional equity analysts for the S&P 500 Index, yielded a composite growth rate of 9.59 percent, which is closely-comparable to Mr. Baudino's estimate of 9.73 percent. I therefore disagree with Mr. Baudino's decision to ignore the results of his analysis under the Value Line forward-looking MRP.

Despite Mr. Baudino's suggestion that these growth estimates are unsustainable, substantial academic research has demonstrated that the earnings forecasts of

[45] Id., at 32.

equity analysts heavily influence the long-term growth and total return expectations of equity investors. This is true regardless of whether or not these forecasts ultimately prove to be overstated or understated, since it is the growth *expectations* of equity investors that have the greatest influence on stock prices and expected returns. I discussed this topic at length in my response to Mr. Baudino's DCF analysis and also in Appendix A to my direct testimony[46].

Clearly then, a substantial amount of academic research supports the use of analyst earnings growth estimates as an appropriate proxy for the expected growth rate component of the DCF constant growth model, and this includes those cases where the DCF model is applied to the total stock market index. Therefore, for these reasons, Mr. Baudino's decision to reject this approach to estimating the market risk premium, which yields an estimated cost of equity of 10.94 percent, is simply unfounded.

Q. Do you agree with the approach that Mr. Baudino took in developing his estimates of the historically based market risk premium?

A. No, not entirely. First, I do agree with the approach that Mr. Baudino took in referencing the 98-year historical average of the market risk premium as reported

[46] *See*, Direct Testimony of Vincent V. Rea, Case No. 2024-00092, May 16, 2024, at Appendix A (pp. 9-12).

within the *Kroll Cost of Capital Navigator*, which reflects a 7.17 percent historical market risk premium, and which yields a cost of equity estimate of 10.79 percent. This is the same general approach that I employed in evaluating the historical market risk premium, which, as can be seen in Attachment VVR-11 (p. 1) to my direct testimony, yielded very similar estimates of the cost of equity,

Nevertheless, once again, Mr. Baudino has elected to reject the results of his own analysis, stating in this particular case that his 10.79 percent estimate of the cost of equity "is likely overstated due to the inflated unadjusted historical 7.17% MRP".[47] However, as I will discuss later, the "supply side" adjustments that Mr. Baudino has proposed to the historical market record for the MRP are flawed, as they are clearly subject to subjective bias and also to forecasting errors. For these reasons, although I do agree with Mr. Baudino's implementation of the *unadjusted* historical market risk premium methodology, I do not agree with his decision to reject the cost of equity estimate (10.79 percent) produced by this methodology.

Second, I do not agree with his alternative approaches in identifying the historical market risk premium, where he references the Ibbotson-Chen "supply side"

[47] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 32.

historical market risk premium and the "supply-side less WWII bias" version of the historical market risk premium.[48]

Q. What concerns do you have with Mr. Baudino's use of the Ibbotson-Chen "supply side" approach to estimating the historical market risk premium?

A. According to Mr. Baudino, the "supply side" approach to estimating the historical market risk premium essentially subtracts the historical growth rate of the price-to-earnings (P/E) ratio for U.S. stocks from the unadjusted historical market risk premium to arrive at an adjusted "supply side" estimate of the market risk premium, which is 6.22 percent. The "supply side" approach reflects an underlying assumption that the price-to-earnings ("P/E") multiple expansion seen for U.S. stocks during the period between 1926-2000 will not be repeated again in the future. In my judgment, because the future is unknown, this conclusion is merely speculative, particularly since 23 years have now passed since Ibbotson and Chen conducted their original study[49]. Clearly, U.S. equity market conditions have continued to evolve since that time. For example, one only has to consider the recent rapid growth of the artificial intelligence revolution to understand why P/E multiples may very well increase again in the future.

[48] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 26-27.

[49] *The Supply of Stock Market Returns*, Roger G. Ibbotson and Peng Chen, Yale International Center for Finance (June, 2001).

It is further noteworthy that the Ibbotson-Chen supply side model "decomposes" the historical U.S. equity returns (going back to the year 1926) into "supply factors."[50] These supply factors include: inflation, earnings, dividends, price-to-earnings (P/E) ratios, dividend payout ratios, book value, return on equity and GDP per capita. In order to estimate the market risk premium under the supply side approach, each of the aforementioned variables or supply factors must be estimated for purposes of input into the supply side model. Therefore, in view of the large number of input variables that must be estimated in order to operationalize the supply side model, the model is subject to forecasting errors, as well as to the subjective bias of the individual analyst implementing the model.

Q. What concerns do you have with Mr. Baudino's use of the "supply side less WWII bias" approach to estimating the historical market risk premium?

A. I have the same concerns that I already discussed with regard to Mr. Baudino's "supply side" approach to estimating the market risk premium. In addition, I do not agree with Kroll's approach of further subtracting the so-called "World War II Interest Rate Bias", covering the period between 1942 and 1951, from the already flawed "supply side" approach, since this ten-year period of time constitutes part of the historical market record in the U.S. bond markets. In my judgment,

[50] Id.

removing ten years (1942-1951) of market data from the long-run historical market record is tantamount to cherry-picking the data.

Q. Why in your judgment should the historical market risk premium be calculated on the basis of the long-run historical average market returns without any further adjustments to the data?

A. The historical market risk premium should be calculated solely on the basis of the long-run historical average market returns because this approach provides an unbiased estimate of the forward-looking market risk premium expectations of investors, and it also is not subject to forecasting errors. Morin discusses this topic at length in *Modern Regulatory Finance*, where he states the following:

> ….an [sic] historical risk premium study should consider the longest possible period for which data are available. *Short-run periods during which investors earn a lower risk premium than they expect are offset by short-run periods during which investors earn a higher risk premium than they expect.* Only over long time periods will investor return expectations and realizations converge. Clearly, the accuracy of the realized risk premium as an estimator of the prospective risk premium is enhanced by increasing the number of years used to estimate it.
>
> ….
>
> Therefore, the historical or realized market risk premium used to estimate the prospective or expected market risk premium should be based on the longest period available.
>
> …
>
> *The use of the entire study period should be used in estimating the appropriate market risk premium, so as to minimize subjective judgement and to encompass as many diverse regimes of inflation, interest rate cycles, and economic cycles as possible* (emphasis added)[51].

[51] Roger A. Morin, Modern Regulatory Finance, PUR Books, LLC (2021) at 129-130.

In this regard, it is important to note that during the 98-year period (between 1926-2023), the average annual total return for U.S. large-capitalization stocks was 12.04 percent, while during this same period, the average annual market risk premium was 7.17 percent.[52] These are the pertinent benchmark return values to reference in estimating the market risk premium, since over the very long-run (i.e., 98 years), investor expectations are realized, and to my knowledge, there are no particularly compelling reasons to believe that future returns will be significantly lower. This is particularly the case in the view of the rapidly growing artificial intelligence revolution.

Moreover, evaluating the historical returns of large-capitalization stocks, without any further modifications to the data, provides an unbiased estimate of future market return expectations. This is because these historical returns reflect repeated observations of a variable that has behaved randomly in the past, and therefore are free of subjective bias. Therefore, while I do agree with Mr. Baudino's use of the "as-reported" historical market risk premium of 7.17 percent as reported by the *Kroll Cost of Capital Navigator*, his use of the "supply side" market risk premium (6.22 percent), and "supply side less WWII bias" market risk premium

[52] Source: Kroll Cost of Capital Navigator.

(5.24 percent) should both be rejected. Again, this is because both of these estimates introduce the risk of subjective bias and forecasting errors into what would otherwise be a highly reliable estimate of the historical market risk premium. Notably, while Mr. Baudino's CAPM analysis produces a cost of equity estimate of 10.79 percent under his unadjusted historical market risk premium approach, his cost of equity estimates under his alternative approaches are significantly lower at 9.95 percent for his "supply side" approach, and 9.09 percent for his "supply side less WWII bias approach". Accordingly, Mr. Baudino's use of these two "supply side" market risk premium approaches causes this component of his CAPM analyses to understate the cost of equity by as much as 1.70 percent (170 basis points).[53]

Q. In estimating the market risk premium, Mr. Baudino has also presented various surveys and publications which suggest that the expected market risk premium is lower than historical average levels. How do you respond?

A. In my judgment, these surveys and publications suffer from subjective bias, which causes them to be unreliable. As reflected in Table VVR-5R below, Mr. Baudino has presented estimates of the expected market risk premium from the following surveys and publications.

[53] *See,* Exhibit RAB-4 (p. 2).

Table VVR-5R Mr. Baudino's Estimates of the Expected Market Risk Premium Based on Surveys and Publications	
Studies and Surveys Referenced	**Estimated Market Risk Premium**
Kroll	5.00%
KPMG	5.00%
IESE Survey	5.50%
Damodaran (average)	4.39%
Overall Average Market Risk Premium Based on the Surveys and Publications Referenced by Mr. Baudino	4.97%
98-Year Historical Average Annual Market Risk Premium (1926-2023) per the Kroll Cost of Capital Navigator	7.17% (actual)

As can be seen in Table VVR-5R above, the 4.97 percent average estimated market risk premium that Mr. Baudino references under his surveys and publications approach is *220 basis points* lower than the 98-year historical average market risk premium reported by the *Kroll Cost of Capital Navigator* (7.17 percent). This large disparity calls into question the powers of prognostication inherent in the surveys and publications referenced by Mr. Baudino, particularly since 98 years of documented U.S. stock market history presents a very different story. To provide additional perspective, the historical average market risk premium (7.17 percent) reflects the 98-year period between 1926-2023, and is calculated on the basis of the

arithmetic average of large-capitalization stock returns (12.04 percent), and the arithmetic average of income returns on long-term U.S. government bonds (4.87 percent). These are the pertinent benchmark returns to reference, since over the very long-run (i.e., 98 years), investor expectations are realized, and to my knowledge, there are no particularly compelling reasons to conclude that future returns will be significantly different.

Moreover, evaluating the long-run historical returns of large-capitalization stocks provides an *unbiased* estimate of future market return expectations. This is because these historical returns reflect repeated observations of a variable that has behaved randomly in the past (U.S. stock market returns), and therefore, are devoid of subjective bias. In contrast, a common thread that runs through the surveys and publications that Mr. Baudino has referenced is *recency bias*, which in this case is the fallacy of extrapolating a continuation of recent stock market conditions well into the distant future. There is simply no legitimate basis for making this assumption, as the past 98 years of U.S. stock market history has taught investors otherwise. Indeed, random-walk theory[54] has demonstrated that U.S. equity returns behave independently of recent historical returns, and for this

[54] As defined by Investopedia, "Random walk theory suggests that changes in stock prices have the same distribution and are independent of each other. Therefore, it assumes the past movement or trend of a stock price or market cannot be used to predict its future movement. In short, random walk theory proclaims that stocks take a random and unpredictable path that makes all methods of predicting stock prices futile in the long run". *See, Random Walk Theory Definition and Example* (investopedia.com).

reason, the use of surveys and publications to estimate the market risk premium is of limited value due to their inherent subjective bias.

Q. Did you identify any shortcomings with regard to the Kroll market equity risk premium that Mr. Baudino has referenced?

A. Yes. I have reviewed the publication that Mr. Baudino referenced in support of Kroll's recommended market equity risk premium, but that publication does not provide any guidance as to how Kroll derives its MRP recommendation. For example, if Kroll evaluated the long-run historical MRP in deriving its recommendation, it raises the question of whether the historical values that Kroll referenced are based on the arithmetic mean or the geometric mean. This alone is a critically important question, as Villadsen, Vilbert, Harris and Kolbe have noted the following:

> …..the difference between the geometric and arithmetic realized MRP is about 2%, so the lack of specificity in the question could easily lead to forecasts that are inconsistent.[55]

In the absence of this information, an analyst has no way of evaluating the validity of the underlying assumptions that are incorporated into Kroll's recommended MRP, and for this reason, I recommend that the Commission reject it.

[55] Bente Villadsen, Michael J. Vilbert, Dan Harris and A. Lawrence Kolbe, *Risk and Return for Regulated Industries*, Academic Press, Elsevier, Inc. (2017) at 67-68.

Q. Please elaborate on the reasons why referencing geometric averages of historical market returns is an inappropriate basis for estimating the cost of equity.

A. The finance literature has demonstrated that the geometric average is an inappropriate basis for purposes of projecting future market returns. Multiple academic studies and financial publications[56] have made clear that the arithmetic mean is the appropriate basis to employ when estimating the forward-looking market return and risk premium expectations of investors. This is attributable to the fact that the arithmetic mean is the unbiased estimate of a security's expected future return, because it incorporates the variability of historical returns into future return expectations. In contrast, the geometric mean does not incorporate the expected future variability of equity returns into the expected market return. In fact, the variability of investment returns has been removed from the geometric mean, which provides a "smoothed" growth calculation, and which is further illustrated by the fact that the geometric mean invariably has a standard deviation of *zero.* Considering that equity investors would in fact be exposed to potential

[56] See, Ibbotson Associates, *Stocks, Bonds, Bills, and Inflation, 2005 Yearbook, Valuation Edition*, at 75; Brealey, R., Myers, S., and Allen, P. *Principles of Corporate Finance*, International Edition, New York: McGraw-Hill, 2011, at 159; Bodie, Z., Kane, A., and Marcus, A.J. *Investments*, New York: McGraw-Hill Irwin, 8th ed., 2009, at 126-127; Brigham, E.F. and Ehrhardt, M. *Financial Management: Theory and Practice,* 8th ed., Hinsdale, IL, Dryden Press, 2005; and Bruner, R.F., Eades, K.M., Harris, R.S., and Higgins R.C. "Best Practices in Estimating the Cost of Capital: Survey and Synthesis," *Financial Practice and Education*, Spring/Summer 1998, at 13-28.

wide variations in investment returns in the future, these returns would need to be revised upward significantly on the basis of arithmetic averages to properly reflect the risk associated with the variability of future returns.

Q. Did you identify any shortcomings with regard to the KPMG research summary that Mr. Baudino referenced for purposes of estimating the expected market risk premium?

A. Yes. Mr. Baudino references a *KPMG Corporate Finance* publication[57] that recommends a market risk premium of 5.00 percent. Once again, this publication does not provide many specifics as to how KPMG developed their recommended MRP, and it is unclear as to whether the "historical observation methodology" they reference in this publication reflects historical data that is based on the arithmetic mean or the geometric mean.

It is also important to recognize that KPMG's MRP recommendations are compiled by KPMG's affiliate in the Netherlands, and that the underlying data reflects a "global MRP" which incorporates data from the Amsterdam Exchange Index (AEX), Financial Times (London) Stock Exchange (FTSE), and the European Stock Index (STOXX 600). It is therefore questionable as to whether a market risk premium estimate derived from multiple European stock exchange indices is an

[57] *Equity Market Risk Premium - Research Study,* KPMG Corporate Finance & Valuations (NL), June 30, 2024.

appropriate basis for estimating the cost of equity for a regulated utility in the United States. In view of this shortcoming, and the fact that I have no basis for evaluating the validity of the underlying assumptions incorporated into KPMG's recommended MRP, I recommend that the Commission reject it.

Q. Did you identify any shortcomings with regard to the IESE Business School surveys conducted by Pablo Fernandez, which Mr. Baudino has referenced for purposes of estimating the expected market risk premium?

A. Yes. It is widely-recognized in the finance literature that survey-based techniques used to estimate the market risk premium suffer from a number of critical shortcomings. These shortcomings are discussed by Morin in *Modern Regulatory Finance*, where he makes the following observations:

> Surveys of academics and investment professionals, for example the Graham and Harvey survey or the Fernandez annual surveys or the Welch (2000, 2001) surveys, provide another technique of estimating the MRP. This technique is subject to the well-known shortcomings of survey techniques. *There are several reasons to place little weight on survey results relative to the results from other approaches.* First, return definitions and risk premium definitions differ widely. Second, survey responses are subject to bias. Surveys may tell more about hoped-for expected returns rather than objective required returns. Third, subjective assumptions about long-term market behavior may well place undue weight on recent events and immediate prospects (emphasis added).[58]

[58] Roger A. Morin, Modern Regulatory Finance, PUR Books, LLC (2021) at 186.

Notably, in the above passage, Morin specifically points out the shortcomings associated with the Fernandez (IESE Business School) annual surveys.

Furthermore, In *Risk and Return for Regulated Industries*, the authors also address the shortcomings associated with using survey techniques in estimating the equity risk premium, as follows:[59]

> In theory, since the ERP is a forward-looking estimate, simply asking people what they expect the ERP to be seems like an appealing idea. In practice, the use of survey results to estimate the ERP is problematic.
> ….
> Recently, Pablo Fernandez of the IESE Business School has published annual survey data on the MRP in many countries. Unfortunately, these surveys are less useful than they might otherwise be because the question regarding the respondent's forecast or belief regarding the MRP does not specify whether the MRP estimates should be an arithmetic or geometric estimate or whether it is in relation to LT or ST government bonds. As noted earlier, the difference between the geometric and arithmetic realized MRP is about 2%, so the lack of specificity in the question could easily lead to forecasts that are inconsistent. *While the survey results are interesting, we do not recommend that substantial weight be given to survey-based estimates of the MRP in the regulatory setting* (emphasis added).[60]

Consistent with the foregoing observations made by Villadsen, Vilbert, Harris and Kolbe, it is important to note that the Fernandez survey[61] is simply based on a very

[59] Note that the authors refer to the equity risk premium (ERP) and market risk premium (MRP) as interchangeable terms.

[60] Bente Villadsen, Michael J. Vilbert, Dan Harris and A. Lawrence Kolbe, *Risk and Return for Regulated Industries*, Academic Press, Elsevier, Inc. (2017) at 67-68. (Emphasis added).

[61] Pablo Fernandez, Diego García de la Garza and Lucia Fernandez Acin, *Survey: Market Risk Premium and Risk-Free Rate Used for 96 Countries in 2024,* IESE Business School (March 11, 2024).

brief two-line email request for survey responses that asks the following two questions:

(1) The Market Risk Premium that I am using in 2024 for USA is: ___%.

(2) The Risk-Free rate that I am using in 2024 for USA is: ___%.

That's it. No further elaboration or guidance is provided as to whether the survey respondents should base their responses on the arithmetic mean or the geometric mean, or which particular debt security or term-to-maturity should be referenced for purposes of both responses. This ambiguity clearly undermines the validity, consistency and usefulness of the results yielded by the Fernandez survey. Furthermore, the fact that the survey results for 2024 reflect a very wide dispersion of survey responses, ranging from as low as 3.00 percent to as high as 16.00 percent[62], in and of itself does *not* inspire confidence in the validity and usefulness of the survey results.

Q. Did you identify any significant shortcomings with regard to the Damodaran MRP that Mr. Baudino referenced in his CAPM analysis?

A. Yes. The Damodaran MRP is based upon the fundamentally flawed modeling assumption that the growth rate for U.S. stocks will decline to an anemic constant

[62] Id., at 3.

long-term growth rate after five years. As a proxy for this constant long-term growth rate, the Damodaran model references the current yield on U.S. Treasury securities. In my judgment, there is no logical association between the long-term growth expectations of equity investors and the prevailing yield on U.S. Treasury securities. This is clearly demonstrated by the fact that the average consensus EPS growth rate estimate from institutional equity analysts for the S&P 500 stock index has recently been in the range of 10.0 percent, which is significantly higher than recent yields for both the 10-year U.S. Treasury note (3.85 percent) and the 30-year U.S. Treasury bond (4.10 percent).

Further evidence of the aforementioned fundamental flaw in the Damodaran MRP is provided by Mr. Baudino's own cost of equity recommendations in this proceeding. This can be seen by simply combining Mr. Baudino's assumed risk-free rate of return in this proceeding of 4.49 percent with the average Damodaran MRP of 4.39 percent. This produces an indicated cost of equity for the overall U.S stock market of just 8.88 percent. In other words, the Damodaran MRP produces a cost of equity estimate for the total U.S. stock market that is *72 basis points lower* than Mr. Baudino's 9.60 percent recommended cost of equity for Columbia.

This is simply illogical, since regulated gas utilities like Columbia presently have an implied beta coefficient of approximately 0.88,[63] so we are able to determine that applying this beta to the Damodaran MRP and then combining it with Mr. Baudino's assumed risk-free rate of return of 4.49 percent, produces a cost of equity estimate for Columbia of just 8.35 percent.[64] Not only is this estimate of Columbia's cost of equity *125 basis points lower than* Mr. Baudino's recommended cost of equity of 9.60 percent, it is also *148 basis points lower* than the 9.83 percent average authorized ROE granted to gas utilities nationwide during the first-half of 2024. It is therefore clear that referencing the Damodaran MRP produces an estimate of Columbia's cost of equity that is inconsistent with both the comparable earnings and capital attraction standards established in *Hope and Bluefield*, and should therefore be rejected by the Commission.

Response to Mr. Baudino's Criticisms of Mr. Rea's CAPM Analyses

Q. Mr. Baudino maintains that you should have also considered current yields on the 30-year U.S. Treasury bond in your CAPM/ECAPM analyses.[65] How do you respond?

A. I addressed this topic earlier in my response to Mr. Baudino's CAPM analyses.

[63] The average Value Line beta coefficient for the Gas LDC Group in this proceeding is 0.88.

[64] Calculated as follows: Mr. Baudino's 4.49 percent risk-free rate assumption added to the product of the Damodaran MRP (4.39 percent) and Columbia's implied beta (0.88).

[65] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 45.

Additionally, I would further note that in taking this position, Mr. Baudino fails to recognize that the CAPM is a forward-looking ex ante model which requires expectational inputs, rather than retrospectively-focused inputs. Lastly, it also important to recognize that utility ratemaking is inherently a forward-looking process, and therefore requires expectational inputs.

Q. Mr. Baudino maintains that the expected growth rate you referenced for the S&P 500 Index, which was incorporated into your estimate of the market risk premium (MRP), is "unsustainably high".[66] How do you respond?

A. This statement mischaracterizes the approach that I employed in conducting my CAPM analyses. In point of fact, I did not rely exclusively on the S&P 500 Index data in developing my prospective estimate of the MRP. As reflected in Attachment VVR-11 (p. 1) to my direct testimony, I have also placed an equal weighting on the Value Line stock price appreciation potential growth rate, which is the same approach employed by Mr. Baudino in Exhibit RAB-4 (p.1) to his direct testimony. Therefore, in making this assertion, Mr. Baudino has not recognized the fact that the growth rate that I referenced from the aforementioned Value Line approach is significantly lower (8.34 percent) than the result for the S&P 500 Index approach (10.84 percent). As I noted in my direct testimony,[67] I referenced the

[66] Id., at 47.

[67] Direct Testimony of Vincent V. Rea, Case No. 2024-00092 (August 14, 2024), at 77-78.

average of these two values in deriving my estimate of the prospective MRP, which provides a balanced and conservative approach in estimating the MRP.

Q. Mr. Baudino further maintains that the expected growth rate for the S&P 500 Index "vastly exceeds both the historical and projected GDP growth rates for the United States", and should therefore be rejected[68]. How do you respond?

A. I disagree. The U.S. nominal GDP growth rate, which measures the growth rate of the monetary value of finished goods and services produced in the U.S., has not been demonstrated to have a material influence on stock valuations or the investment decisions of equity investors. In this regard, Mr. Baudino has not provided any empirical studies or other evidence which demonstrates that GDP growth estimates have a material influence on investor return expectations. Therefore, GDP growth projections are not an appropriate growth rate measure to employ in the DCF model. If they were, the purveyors of equity analyst estimates such as Yahoo Finance, Zacks, I/B/E/S, Bloomberg and Value Line would all report GDP growth rate estimates along with the EPS growth estimates they routinely disseminate. Yet, they do not.

In fact, GDP growth rate projections are rarely, if ever, discussed in the investment research of equity analysts. As discussed earlier, this was further corroborated in

[68] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 47.

the survey of equity analysts conducted by Block. As revealed in this survey, EPS and cash flow are the two most important factors that equity analysts evaluate in forming their valuation and return estimates, while GDP growth rates were not even mentioned in the survey.

Q. Are you aware of any academic research which has demonstrated that there is not a correlation between equity market returns and GDP growth rates?

A. Yes, a study by Klement published in the *Journal of Investing* demonstrated that there is no positive association between equity market returns and measures of economic growth such as GDP. The conclusions drawn from this study were as follows:

> In this article, we analyze the correlation of equity market returns with economic growth for small, medium-size, and large corporations in 22 developed and 22 emerging nations. We find no evidence of a positive correlation between stock market returns and real gross domestic product (GDP) per capita growth in any of these cases.[69]

Q. Mr. Baudino maintains that the constant growth DCF requires a "sustainable long-run growth rate"[70] which should not exceed long-term projections of GDP growth. How do you respond?

A. In making this statement, Mr. Baudino is referencing the strict theoretical

[69] Joachim Klement, *What's Growth Got to Do with It? Equity Returns and Economic Growth,* Journal of Investing, (Summer 2015), at 74-78.

[70] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 48.

underpinnings of the DCF constant growth model, rather than the practical implementation of that model in the real world. This is essentially a matter of what data is actually available to investors. As note earlier, the purveyors of equity analyst estimates, such as Yahoo Finance, Zacks, I/B/E/S, Bloomberg and Value Line do not disseminate GDP growth rate projections. If investors actually relied upon GDP growth data in forming their return expectations for common stocks, they would clearly demand this information, but again, they do not. As discussed earlier, the financial literature has demonstrated that investors place the greatest emphasis on the EPS consensus growth estimates of equity analysts in forming their return expectations for common stocks, not on GDP growth rate projections. This explains why the consensus EPS growth estimates of equity analysts are ubiquitous in the financial media.

Q. Is it appropriate to reference a growth estimate for the entire U.S. economy, including the real GDP growth rate, when conducting a DCF analysis of an individual company?

A. No. The growth rate that should be referenced is the growth rate that pertains solely to that individual company. This the case because the dividend yield component of the DCF constant growth model incorporates the most recent stock price (or recent average stock price) for an individual company, which in turn reflects the expected growth in earnings for that individual company. Therefore,

combining a company-specific dividend yield with the expected real GDP growth rate for the entire U.S. economy constitutes a mismatch or misspecification of the inputs to the DCF model.

Q. Mr. Baudino maintains that a small size premium is not appropriate for Columbia because the Decile 4 size adjustment you referenced, as reported by the *Kroll Cost of Capital Navigator*[71], corresponds to riskier unregulated Decile 4 companies, which on average have higher beta coefficients than the gas proxy group.[72] How do you respond?

I disagree. The fact that the Decile 4 companies have higher beta coefficients on average than the Gas LDC Group companies has no relevance with respect to the impact of size. This is true because the size premiums reported by Kroll have already been beta-adjusted, which means that the effects of systematic risk have already been fully removed from the calculation of the size premium. Therefore, considering that the effects of systematic risk have already been controlled for in the determination of the size premiums reported by Kroll, any such differences in beta coefficients are irrelevant, despite Mr. Baudino's arguments to the contrary.

[71] Notably, Kroll sources its size premium data by decile ranking from the Center for Research in Security Prices (CRSP) at the University of Chicago's Booth School of Business.

[72] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 49-50.

Q. Mr. Baudino further maintains that there is no evidence to suggest that the size premium you have recommended applies to regulated gas utility companies.[73] How do you respond?

A. Once again, I disagree. Support for the use of the size premium in the utility industry comes from at least two studies which have demonstrated that the size effect does in fact apply to utilities. For example, in *Equity and the Small-Stock Effect*, Annin concluded:

> For the traditional CAPM, the large-company composite shows a cost of equity of 12.05 percent; the small company composite, 13.93 percent. However, once the respective small capitalization premium is added in, the spread increases dramatically, to 12.07 and 17.95 percent, respectively. Clearly, the smaller the utility (in terms of equity capitalization), the larger the impact that size exerts on the expected return of that security.[74]

Similarly, in *Utility Stocks and the Size Effect–Revisited,* Zepp concluded:

> New studies based on different size water utilities are presented that do support a small firm effect in the utility industry.[75]

Furthermore, the FERC has characterized the small size premium as a "generally accepted approach" to CAPM analyses for purposes of utility regulatory proceedings. Specifically, the FERC has stated:

> We disagree with Petitioners' argument that the NETOs CAPM analysis is flawed due to the fact that the NETOs applied a size

[73] Id., at 50.

[74] Annin, M., *Equity and the Small-Stock Effect,* Public Utilities Fortnightly, October 15, 1995, 133, at 42.

[75] Zepp, T., *Utility Stocks and the Size Effect–Revisited,* The Quarterly Review of Economics and Finance, 43 (2003), at 578-582.

> adjustment to account for the difference in size between the NETOs and the dividend-paying companies in the S&P 500. This type of size adjustment is a generally accepted approach to CAPM analyses, and we are not persuaded that it was inappropriate to use a size adjustment in this case. The purpose of the NETOs size adjustment is to render the CAPM analysis useful in estimating the cost of equity for companies that are smaller than the companies that were used to determine the market risk premium in the CAPM analysis.[76]

Therefore, contrary to Mr. Baudino's assertions, there is compelling evidence that the size premium does in fact apply to regulated utilities.

Q. Mr. Baudino objects to your evaluation of the Empirical CAPM (ECAPM), stating that the need for an ECAPM adjustment suggests that published betas by sources such as Value Line are incorrect and that investors should not rely upon them in formulating their estimates using the CAPM. How do you respond?

A. I disagree. By way of background, Dr. Roger Morin, who serves as Emeritus Professor of Finance at Georgia State University, developed the ECAPM based upon the large body of empirical research which demonstrated that the CAPM risk-return relationship, as illustrated by the Security Market Line ("SML"), is actually flatter than what is predicted by the traditional CAPM. Dr. Morin's development of the ECAPM was heavily influenced by the research of other well-

[76] Federal Energy Regulatory Commission, Opinion 531-B, 61,165 at P117 (2015).

respected finance academics[77] that similarly developed enhanced CAPM models based on many of the same principles and empirical findings which Morin applied in developing the ECAPM. Most notably, the esteemed finance academics Fama and French have also provided additional support for the ECAPM where they have indicated the following:

> The evidence that the relation between beta and average return is too flat is confirmed in time-series tests, such as Friend and Blume (1970), Black, Jensen and Scholes (1972) and Stambaugh (1982).
>
> Confirming earlier evidence, the relation between beta and average return for the ten portfolios is much flatter than the Sharpe-Lintner CAPM predicts. The returns on the low beta portfolios are too high, and the return on the high beta portfolios are too low. For example, the predicted return on the portfolio with the lowest beta is 8.3 percent per year; the actual return is 11.1 percent. The predicted return on the portfolio with the highest beta is 16.8 percent per year; the actual is 13. 7 percent.
>
> The version of the CAPM developed by Sharpe (1964) and Lintner (1965) has never been an empirical success....in the late 1970's, research begins to uncover variables like size, various price ratios and momentum that add to the explanation of average returns provided by beta.
>
> But the empirical work, old and new, tells us that the relation between beta and average return is flatter than predicted by the

[77] See, Fama, E.F. and French, K.R. "The Cross-Section of Expected Stock Returns," *Journal of Finance,* June 1992, 427-465; Fama, E.F. and MacBeth, J.D. "Risk, Returns and Equilibrium; Empirical Tests," *Journal of Political Economy*, September 1972, pp. 607-636; Litzenberger, R.H. and Ramaswamy, K., "The Effect of Personal Taxes and Dividends on Capital Asset Prices: Theory and Empirical Evidence," *Journal of Financial Economics,* June 1979, 163-196; Litzzenberger, R.H., Ramaswamy, K., and Sosin, H. "On the CAPM Approach to the Estimation of a Public Utility's Cost of Equity Capital." *Journal of Finance,* May 1980, 369-383; Pettengill, G.N., Sundaram, S. and Mathur, I. "The Conditional Relation Between Beta and Returns," *Journal of Financial and Quantitative Analysis, Vol.* 30, No. 1, March 1995, at 101-116.

> Sharpe-Lintner version of the CAPM. As a result, CAPM estimates of the cost of equity for high beta stocks are too high (relative to historical average returns) and estimates for low beta stocks are too low (Friend and Blume, 1970).[78]

Q. Do you agree with Mr. Baudino's contention that the need for an ECAPM adjustment suggests that published betas from sources such as Value Line are incorrect?

A. No. The ECAPM does not represent a risk adjustment to beta (or a horizontal axis adjustment to the SML), but instead represents a return adjustment (or vertical axis adjustment to the SML) for empirically observed differences in actual stock returns versus what is actually predicted by the traditional CAPM. Simply stated, the ECAPM incorporates a return adjustment for empirically observed differences in actual returns, rather than a risk adjustment to beta. Therefore, Mr. Baudino's statements in this regard are simply unfounded.

Q. Mr. Baudino objects to the fact that you re-levered the beta coefficients that you referenced in applying the CAPM. How do you respond?

A. Mr. Baudino has failed to recognize that "as-reported" betas reflect the utility's market-value based capital structure and therefore must be adjusted to reflect the higher level of financial risk inherent in a utility's book-value based regulatory capital structure, which is referenced for ratemaking purposes. As discussed at

[78] Eugene F. Fama and Kenneth R. French, *The Capital Asset Pricing Model: Theory and Evidence,* The Journal of Economic Perspectives, Vol. 18, No. 3 (Summer, 2004) at 32-33, and 43-44.

length in my direct testimony (pages 81-84), published betas should not be directly applied to the CAPM, unless the resulting cost of equity estimate will be applied to a market value based capital structure. This is because published betas are derived from the market price movements of individual stocks versus the stock market indices, and therefore reflect the level of financial risk associated with a market value based capital structure. In the utility regulatory setting, published betas must be adjusted to reflect the higher relative financial risk associated with a book value capital structure, which is typically utilized for rate-setting purposes. As has been demonstrated by the classic financial theorems of Modigliani and Miller, and later Hamada, a higher level of financial leverage is consistent with both a higher beta and a higher cost of equity. Therefore, Mr. Baudino's objection to the use of re-levered betas in the context of a CAPM analysis is simply unfounded.

VIII. Risk Premium Method (RPM) Discussion

Q. Mr. Baudino has not conducted a Risk Premium Method (RPM) analysis, but criticizes your RPM analysis because he believes the RPM approach "is imprecise and can only provide very general guidance on the current authorized ROE for a regulated gas utility".[79] How do you respond?

[79] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 51.

A. In my judgment, Mr. Baudino's cost of capital evaluation would have been better informed had he also evaluated the RPM, since any analytical model that allows a broader array of investor perspectives to be incorporated into the cost of equity evaluation process should be viewed as a welcome addition to the analysis. Moreover, while Mr. Baudino argues that the RPM is "imprecise" and can only provide "very general guidance" on current authorized ROEs for gas utilities, the finance literature has made clear that the RPM is in fact widely-used in utility regulatory proceedings, as well as by investment analysts and investors. For example, in *Modern Regulatory Finance,* Morin makes the following observations:

> Risk Premium methods that are empirical precursors to the CAPM discussed in the next chapter have been employed for many years in regulatory proceedings.
>
> ….
>
> Risk premium analyses are widely used by analysts, investors, and expert witnesses and are widespread in investment community reports. Professional certified financial analysts are certainly well-versed in the use of this method. Most college-level corporate finance and/or investment management texts such as Bodie, Kane and Marcus (2018), which is a recommended textbook for CFA (Chartered Financial Analyst) certification and examination, contain detailed conceptual and empirical discussion of the risk premium approach. The approach is typically recommended as one of the three leading methods of estimating the cost of capital[80]

[80] Roger A. Morin, *Modern Regulatory Finance* (PUR Books LLC, 2021), at 124.

Q. **Mr. Baudino further states that the RPM is a "blunt instrument"[81] because historical risk premiums can change substantially over time based on investor preferences and market conditions.[82] How do you respond?**

A. The fact that risk premiums change over time is not a legitimate basis for excluding a RPM analysis from a cost of capital evaluation. In fact, consistent with random-walk theory, evaluating repeated observations of a variable that has behaved randomly in the past, such as the historical market risk premium, provides an unbiased estimate of the *expected* risk premium in the future. In other words, contrary to Mr. Baudino's suggestion, the fact that historical risk premiums change over time as investor risk sentiments change is a normal occurrence in the financial markets that must be recognized and incorporated into the cost of equity estimation process. This is particularly the case because it provides an unbiased estimate of investor return expectations.

Q. Did you complete your RPM analyses entirely on the basis of evaluating historical risk premiums?

A. No. In completing my RPM evaluation, I conducted both historical and prospective risk premium analyses.[83]

[81] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 51.
[82] Id.
[83] *See*, Direct Testimony of Vincent V. Rea, Case No. 2024-00092 (May 16, 2024), pp. 89-102.

Q. Mr. Baudino maintains that your 10.93 percent cost of equity estimate produced under the RPM for the Gas LDC Group is unreasonable because the underlying risk premiums you referenced are "greatly overstated".[84] How do you respond?

A. I would first point out that the 10.93 percent estimate derived under my RPM analysis is entirely consistent with: (1) Mr. Baudino's 10.94 percent cost of equity estimate from his CAPM analysis that evaluated the Value Line Forward-Looking MRP,[85] and (2) Mr. Baudino's 10.79 percent cost of equity estimate from his CAPM analysis that evaluated the historic market premium using arithmetic mean data.[86] Earlier in my response to Mr. Baudino's CAPM analysis, I explained why these are entirely reasonable estimates of the cost of equity.

Although Mr. Baudino further claims that I included "an excessive projected market return for the S&P 500" in my RPM evaluation,[87] he once again mischaracterizes the approach that I took in developing my estimate of the prospective market risk premium. As discussed earlier, I did not rely exclusively on the S&P 500 Index data in developing my prospective estimate of the MRP. In fact, I also placed an equal weighting on the Value Line stock price appreciation

[84] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 51.
[85] Id., at Exhibit RAB-4 (p. 1).
[86] Id., at Exhibit RAB-4 (p. 2).
[87] As was the case with Mr. Baudino's response to my CAPM analyses.

potential approach, which produces a growth rate assumption that is significantly lower than the S&P 500 Index approach.

Mr. Baudino also maintains that my RPM analysis is flawed because I evaluated the 98-year historical average market return data reported by Kroll, which, in his opinion, is overstated because it does not reflect various adjustments to the historical market record which Mr. Baudino deems appropriate.[88] Again, as I discussed in my response to Mr. Baudino's CAPM analysis, this approach is tantamount to cherry-picking the data.

Therefore, while Mr. Baudino make various arguments to undermine the cost of equity estimate produced by my RPM analysis, these arguments are simply without merit. Again, this is further demonstrated by the fact that several of Mr. Baudino's CAPM-based estimates of the cost of equity are entirely consistent with my RPM-based estimate. This is noteworthy because both of these models (methods) are characterized as risk premium approaches to estimating the cost of equity.

IX. Mr. Baudino Failed to Consider a Broader Group of Comparable-Risk Proxy Companies to Ensure the Reliability of His Analytical Results

Q. Mr. Baudino has based his cost of equity recommendations in this proceeding

[88] As reflected in Exhibit RAB-4 (p. 2) to Mr. Baudino's direct testimony, this includes adjustments for the "supply side ERP" and the "supply side ERP less WWII bias".

on the market data of just seven proxy group companies. Do you agree with this approach?

A. No. Considering that the various financial and/or market data inputs into the cost of equity models can be vulnerable to observation error, employing the largest comparable risk proxy group possible can significantly improve the reliability of a study's analytical results. The use of larger proxy groups also ensures that a greater diversity of investor perspectives is incorporated into the cost of capital evaluation process. For the foregoing reasons, I elected to evaluate a total of 26 comparable-risk companies in my evaluation, while Mr. Baudino ultimately considered only seven companies.

As discussed earlier, although Mr. Baudino conducted a DCF analysis of the Combination Utility Group, he ignored the results of this analysis despite the fact that the results were closely-comparable to the results for his gas proxy group. Moreover, these results strongly suggest that the Combination Utility Group and the respective gas proxy groups in this proceeding are of comparable risk. It is therefore perplexing as to why Mr. Baudino would recommend that the Commission reject the use of the Combination Utility Group, as it provides a useful complement to the gas proxy groups and enhances the reliability of the cost of capital evaluation.

In my direct testimony (pp. 35-46), I discuss at length why complementary proxy groups like the Combination Utility Group and the Non-Regulated Group are: (1) entirely consistent with the comparable earnings standard established in *Hope* and *Bluefield;* and (2) entirely risk-comparable to the Gas LDC Group, thus providing an appropriate complementary basis for estimating Columbia's cost of equity.

Q. Mr. Baudino has also rejected the use of your Non-Regulated Group on the basis of claiming that non-utility companies face risks that regulated gas utilities do not face, and that as a consequence, non-utility companies will have higher required returns.[89] How do you respond?

A. Although Mr. Baudino maintains that non-utility firms have unique risks in the form of market competition, he fails to acknowledge that Columbia does compete with other gas distribution companies within the perimeter of the area in which it has facilities to serve customers. Moreover, Mr. Baudino also fails to acknowledge that with recent trends towards decarbonization and electrification, gas utilities are now facing more significant competitive pressures from electric utilities. Therefore, despite Mr. Baudino's statements to the contrary, Columbia is in fact exposed to competitive risks.

[89] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 40.

Furthermore, Mr. Baudino fails to acknowledge that market competition is just one form of investment risk, and that non-utility firms do *not* face certain other risks that regulated utilities are subject to, such as the risks associated with rate-regulation (i.e., inadequate and untimely cost-recovery, regulatory lag and earnings attrition). Thus, while Mr. Baudino posits that non-utility firms are somehow by definition automatically riskier than regulated utilities, he does not acknowledge the fact that regulated utilities also face certain unique risks. For this reason, each firm, whether a non-utility firm or a rate-regulated utility, must be evaluated on the basis of its unique portfolio of all forms of risk, rather than simply on the basis of just one component of risk, such as market competition. This is the very approach taken by the rating agencies in conducting their credit rating evaluations.

Lastly, it is further noteworthy that Mr. Baudino has not provided any comparative risk assessment or other evidence in support of his assertion that, by definition, non-utility firms are riskier than rate-regulated utilities.

Q. Mr. Baudino maintains that because your cost of equity estimates for the Non-Regulated Group under the DCF method are higher than the DCF estimates he derived for his gas proxy group, this further validates his assertion that non-utility companies have higher required returns. How do you respond?

A. I disagree. Mr. Baudino's assertion in this regard does not accurately reflect the results of my cost of capital evaluation. In fact, several of my cost of equity estimates for the Non-Regulated Group reflect *lower estimates* of the cost of equity as compared to our respective gas proxy groups. As reflected in Table VVR-1 (p. 11) to my direct testimony, the cost of equity estimates that I developed for the Non-Regulated Group under the three CAPM model variants are actually *lower* than the corresponding estimates for both of my utility proxy groups.

Q. Do the *Hope and Bluefield* decisions suggest that only regulated utilities should be evaluated for purposes of identifying other enterprises with "corresponding risks", as required by the comparable earnings standard?

No. The regulatory precedent established in *Hope* and *Bluefield* does not require that comparable companies be similar with respect to a firm's business operations, or extent to which they are regulated. Comparable companies need only be similar with respect to their corresponding risks, and I have demonstrated through a number of objective risk measures that the Non-Regulated Group is entirely risk-comparable to the Gas LDC Group.[90]

As further evidence that the Non-Regulated Group is in fact comparable in risk to the Gas LDC Group and therefore Columbia, it is instructive to evaluate the

[90] The summarized findings of my comparative risk assessment can be found in Table VVR-5 (p. 46) of my direct testimony.

risk assessments of the major credit rating agencies. The credit rating agencies routinely conduct credit risk assessments across a myriad number of industries, and the end-product of their risk assessments is a long-term credit rating that is directly comparable *across industries*, including the regulated utility industry. In other words, if the rating agencies assign the same long-term credit rating to both a regulated utility and a non-rate-regulated industrial manufacturing company, this indicates that the relative investment risk between the two companies is in fact, very similar.

Notably, the average long-term credit ratings assigned to the companies comprising the Non-Regulated Group are equivalent to those of the Gas LDC Group, thus suggesting that the two proxy groups have very similar investment risk profiles. This is illustrated in Table VVR-5 (p. 46) in my direct testimony, which I have presented again in Table VVR-6R below. As shown in Table VVR-6R, the average long-term credit rating assigned by S&P for the Non-Regulated Group companies is "A-", while the average S&P rating for the Gas LDC Group companies is also "A-", thus indicating an equivalent level of investment risk between the two proxy groups. Table VVR-6R further demonstrates that the average long-term credit rating issued by Moody's for the Non-Regulated Group companies is "A3", while the average Moody's rating assigned to the Gas LDC

Group companies is also "A3", once again indicating that the two proxy groups have very similar investment risk profiles.

Table VVR-6R
Comparative Risk Assessment of Proxy Groups

Risk Measure	Gas LDC Group	Comb. Utility Group	Non-Reg. Group
Value Line Beta	0.88	0.89	0.85
Value Line Safety Rank	2	2	1
Value Line Fin. Strength Rating	A	B++	A+
Value Line Stock Price Stability Rating	90	89	96
S&P Long-Term Debt Rating	A-	A-	A-
Moody's Long-Term Debt Rating	A3	Baa1	A3

Therefore, Mr. Baudino's assertion that the non-utility firms comprising the Non-Regulated Group have higher investment risk profiles than regulated utilities is inconsistent with the risk assessments of the major rating agencies, which indicate that the Non-Regulated Group and the Gas LDC Group have very similar investment risk profiles.

Q. Do the financial markets provide any additional *market-based evidence* that non-rate-regulated companies and regulated utility companies share similar investment risk profiles in those circumstances where their respective long-term credit ratings are the same?

A. Yes. The evidence shows, that for a given credit rating, the debt capital markets will price the trading yields of "A" rated and "Baa" rated bonds almost identically for "corporate" fixed-income securities and utility fixed-income securities. For example, during calendar-year 2023, the average trading yield for "A" rated long-term corporate bonds was 5.39 percent, while the average trading yield for "A" rated long-term utility bonds was 5.54 percent. During the same period, the average trading yield for "Baa" rated long-term corporate bonds was 5.85 percent, versus 5.84 percent for long-term utility bonds. Clearly, this market data reflects very similar bond trading yields for both "corporate" bond issuers and utility bond issuers.

If the investment risk profile of non-rate-regulated corporate entities was materially different than the risk profile of utility companies having the same long-term credit ratings, the debt capital markets would price the trading yields of corporate bonds differently than the trading yields of utility bonds in order to recognize this risk differential. However, as the above recent historical trading

yields demonstrate, the debt capital markets price the trading yields of both "corporate" and utility bonds almost identically for a given long-term credit rating.

Q. Did your comparative risk assessment also evaluate equity-specific risk indicators when you compared the risk profiles of the Non-Regulated Group versus the Gas LDC Group?

Yes, I also evaluated risk indicators that are specific to *equity investments*. For example, as reflected in Table VVR-6R above, I determined that the Non-Regulated Group's average beta coefficient of 0.85 is lower than the Gas LDC Group's beta coefficient of 0.88, which indicates a lower level of systematic risk for the Non-Regulated Group. In addition, as also reflected in Table VVR-6R, I further determined that Value Line's three other measures of investment risk that are specific to equity investments all indicate that the Non-Regulated Group has an investment risk profile that is lower, not higher, than the Gas LDC Group. These risk measures include Value Line's Safety Rank, which measures total investment risk, as well as Value's Line's Financial Strength Rating and Stock Price Stability Rating.

Despite this objective evidence, Mr. Baudino has nevertheless rejected the Non-Regulated Group, and in so doing, has chosen to ignore the market-based

information which actually defines the "competitive market result" for comparable-risk companies. At the same time, Mr. Baudino's decision to reject the Non-Regulated Group would appear to contradict the statements that he makes in his direct testimony, where he concludes the following:

> ….that investor's opportunity cost is measured by what she or he could have invested in the next best alternative. That alternative could have been another utility stock, a utility bond, *a mutual fund*, a money market fund, *or any other number of investment vehicles* (emphasis added)[91].

Q. In your opinion, by rejecting the Non-Regulated Group, are Mr. Baudino's conclusions inconsistent with the fair return standards established in *Hope and Bluefield*?

A. Yes. By rejecting the Non-Regulated Group, Mr. Baudino has effectively ignored the comparable earnings standard established in *Bluefield*, which indicated that firms involved in "other business undertakings" should be considered in applying the comparable earnings standard, while the *Hope* ruling indicated that "other enterprises" should be considered. The U.S. Supreme Court has determined that regulated utilities are entitled to earn a rate of return commensurate with other companies having comparable risks, irrespective of their business activities or the extent to which they are regulated. In *Bluefield*, the Court concluded:

[91] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 5.

> 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 equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties.[92]

It is important to note that in *Bluefield*, the Court specifically stated that public utilities should be permitted to earn a return which is equal to the returns available on "*investments in other business undertakings,"* provided they have corresponding risks. By virtue of its reference to *"other business undertakings,"* the Court implicitly endorsed the use of non-utility proxy groups in the determination of a fair rate of return for utilities. Moreover, in the *Hope* case, the Court concluded:

> By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks.[93]

It is clear then that the Court's directive in *Hope* was that the comparable earnings standard should be applied to "other enterprises" and not just to other regulated utilities, since if the Court had intended otherwise, it could have just as easily referenced "other utilities" in its landmark decision. Therefore, based upon the Court's decisions in the *Hope and Bluefield* cases, the use of non-utility proxy companies in the determination of a utility's cost of equity is a sound practice, and

[92] *Bluefield Water Works and Improvement Company v. Public Service Commission of the State of West Virginia*, 262 U.S. 679, 692 *(1923).*

[93] *Federal Power Commission et.al. v. Hope Natural Gas Company*, 320 U.S. 591, 603 *(1944).*

is entirely consistent with the comparable earnings standard established in these cases. After all, utilities do not only compete with other utility companies for investor capital, they must also compete with an entire universe of risk-comparable companies, irrespective of industry classification and level of regulatory oversight.

Phillips has provided further guidance on this topic in *The Regulation of Public Utilities,* an authoritative guide on utility regulatory matters, where he states:

> The comparable earnings approach, further, requires that comparisons be made with both regulated and nonregulated alternatives, if the results are to have any validity, for two basic reasons. First, the alternatives confronting investors include both regulated and nonregulated enterprises. There is active competition for investor capital; no company enjoys a monopoly of the capital markets. Investors will seek the opportunity that provides the greatest profit, commensurate with the risks involved. Second, returns of regulated firms must always be used with extreme caution, At best, they reflect what the informed judgments of regulatory commissions have permitted such utilities to earn and may not be indicative of what could have been earned in the competitive market.[94]

Therefore, consistent with both judicial precedent and the opportunity cost concept, in order to attract sufficient capital to support its public service obligations, Columbia must be afforded a reasonable opportunity to provide a return to its investors which is similar to the returns offered by non-rate-regulated companies of comparable risk.

[94] Charles F. Phillips, Jr., *The Regulation of Public Utilities* (Public Utility Reports, Inc., 1993), at 398.

X. Updates to Columbia's Capital Structure Cost Rates and Proposed Overall Fair Rate of Return

Q. Please discuss the updates that Columbia is proposing with respect to the Company's capital structure cost rates and overall fair rate of return in the instant proceeding.

A. As reflected in Attachment Rebuttal VVR-2R and Attachment Rebuttal VVR-6R, the Company has updated the cost rate associated with Columbia's long-term debt for actual data that became available after the Company's May 16, 2024 filing date. As reflected in Attachment Rebuttal VVR-6R, the Company has updated the cost rates associated with four long-term debt issuances, one of which occurred on June 30, 2024, while the other three expected debt issuances will occur during the remainder of 2024 and/or in 2025. As reflected in Attachment Rebuttal VVR-6R, the actual cost rate for the June 30, 2024 debt issuance was 5.9124 percent, which is lower than the originally projected debt cost rate of 6.25 percent as per the Company's original rate case filing. In addition, as proposed by OAG witness Baudino, the Company has also revised the projected cost rates for the Company's expected long-term debt issuances during the remainder of 2024 and 2025, to the same 5.9124 percent cost rate assigned to Columbia's June 2024 debt issuance.

Q. Based upon the updates that the Company has applied to the debt cost rate for Columbia's recent debt issuance and its future debt issuances during 2024 and 2025, is the Company now proposing an update to the embedded cost rate for long-term debt in this proceeding?

A. Yes. As reflected at the bottom of Attachment Rebuttal VVR-6R, after applying the aforementioned changes to the cost rates for the Company's recent debt issuances and future planned debt issuances, Columbia is now proposing an overall embedded cost of long-term debt of 4.84 percent,[95] which reflects a four basis-point reduction from the Company's originally proposed cost rate of 4.88 percent. The Company's updated cost of long-term debt of 4.84 percent is also consistent with the proposal that OAG witness Baudino has made regarding the overall cost rate for the embedded cost of long-term debt in this proceeding.

Q. Based upon the updates that the Company has applied to the cost rate for its long-term debt, is Columbia proposing a revised overall fair rate of return in this proceeding?

A. Yes. As reflected in Attachment Rebuttal VVR-2R, the Company is proposing a revised overall fair rate of return of 7.99 percent in this proceeding, which represents a 2 basis-point reduction from the 8.01 percent overall fair rate of return of that Columbia originally proposed in this proceeding.

[95] As based upon the 13-month average through December 31, 2025.

XI. Mr. Baudino's Recommendation that the Commission Should Maintain its Authorized ROE Reduction for the Company's SMRP Rider Does Not Recognize the Company's Proposed Changes to the Rider or that the Cost of Equity Estimates for the Proxy Groups Already Reflect the Presence of Infrastructure Tracking Mechanisms

Q. Mr. Baudino has proposed that the Commission should continue its past practice of reducing Columbia's authorized ROE for the Company's SMRP rider and recommends a reduction of 10 basis points in this proceeding.[96] How do you respond?

A. In making this recommendation, Mr. Baudino has essentially ignored the nature of the proposed change to the Company's SMRP rider as directed by the Commission in its order in Columbia's last rate case. Mr. Baudino argues that the Commission's Order from the recent Duke Energy case (Case No. 2022-00372) made clear that the Commission continues to apply a lower ROE to tracking mechanisms "due to the lower-risk nature of the collection of costs".[97] However, he ignores the fact that Columbia's historic investments that would now be included in the SMRP rider will not benefit from the reduction of regulatory lag, which has historically been the case for SMRP investments. In this regard, the 10 basis-point ROE reduction proposed by Mr. Baudino at least partially reflects the

[96] Direct Testimony of Richard A. Baudino, Case No. 2024-00092 (August 14, 2024), at 36.
[97] Id., at 36

risk-reducing effects of the reduction and/or elimination of regulatory lag between rate cases. However, for the historic investments that remain in the SMRP rider, the benefits associated with reduced regulatory lag are no longer applicable, and for this reason, Mr. Baudino's proposed ROE reduction is inappropriate. Such being the case, Mr. Baudino's recommendation that the Commission should continue to apply a downward adjustment to the Company's authorized ROE for the SMRP rider, even if modified as proposed, should be rejected.

Q. Do the cost of equity estimates developed for the gas proxy group companies in this proceeding already reflect any theoretical or actual reduction of risk resulting from the use of infrastructure tracking mechanisms?

A. Yes. As discussed at length in my direct testimony (pp. 47-52), the companies comprising the Gas LDC Group also employ many of the same types of infrastructure cost recovery mechanisms as compared to Columbia's SMRP rider. For this reason, the market data of these proxy companies, including their stock prices and implicit cost of equity, will already reflect any theoretical or actual risk-reducing effects of these cost recovery mechanisms. For this reason, if Mr. Baudino's proposal to reduce Columbia's authorized ROE for its SMRP rider by 10 basis points were adopted by the Commission, this would essentially constitute a double-counting of any risk-reducing effects, since these effects would already be reflected in the Company's cost of equity and authorized ROE.

Q. Can you offer any additional evidence that the authorized ROEs decided in utility rate proceedings already incorporate the risk-reducing effects of infrastructure cost recovery mechanisms such as the SMRP rider?

A. Yes. As discussed in my direct testimony, I conducted a comprehensive evaluation to determine the extent to which the proxy group companies I referenced utilize infrastructure cost recovery mechanisms that are similar in form to Columbia's SMRP rider.[98] In conducting my evaluation, I employed the same approach that investors typically employ in conducting their relative risk assessments among various investment alternatives. That is, I reviewed each company's SEC public filings (i.e. 10-Ks and 10-Qs) and investor conference presentations. This is an important observation since investors will generally form their risk perceptions with respect to the impacts of infrastructure cost recovery mechanisms largely on the basis of the information contained within a company's public filings and/or other publicly-disseminated information.

Based on my evaluation, I determined that the market-based data of the Gas LDC Group companies would already capture any risk-reducing effects resulting from these cost recovery mechanisms.[99] It would therefore be

[98] Direct Testimony of Vincent V. Rea, Case No. 2024-00092 (August 14, 2024), at 48-51.
[99] Id., 49-51

inappropriate to apply a downward adjustment to the authorized ROE for Columbia's SMRP rider, since any such adjustment would be redundant to the effects that would already be incorporated into the Company's overall authorized ROE, as determined in this proceeding.

Q. Does this conclude your prepared Rebuttal testimony?

A. Yes, it does.