Exhibit No. _____
Issue: Cost of Capital
Witness: Dylan W. D'Ascendis
Type of Exhibit: Surrebuttal Testimony
Sponsoring Party: Confluence Rivers
Case No.: WR-2023-0006/SR-2023-0007
Date: July 21, 2023

BEFORE THE

MISSOURI PUBLIC SERVICE COMMISSION

SURREBUTTAL TESTIMONY

OF

DYLAN W. D'ASCENDIS
PARTNER
SCOTTMADDEN, INC.

ON BEHALF OF

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.

July 21, 2023

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Dylan W. D'Ascendis. I am employed by ScottMadden, Inc. as Partner. My business address is 3000 Atrium Way, Suite 200, Mount Laurel, NJ 08054.

Q. Are you the same Dylan W. D'Ascendis who provided direct and rebuttal testimonies in this matter?

A. Yes.

II. PURPOSE OF TESTIMONY

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

A. The purpose of my surrebuttal testimony is to respond to the rebuttal testimonies of Mr. Christopher C. Walters, who testifies on behalf of the Staff ("Staff") of the Missouri Public Service Commission (the "Commission"); and Mr. David Murray, who testifies on behalf of the Office of the Public Counsel ("OPC") (collectively the "Opposing Witnesses"), as they relate to Confluence Rivers Utility Operating Company, Inc.'s ("Confluence Rivers", "Confluence", or the "Company") requested return on common equity ("ROE") on its Missouri jurisdictional rate base and ratemaking capital structure.

III. SUMMARY AND OVERVIEW

Q. Please summarize your conclusions.

A. After reviewing the rebuttal testimonies of the Opposing Witnesses, I maintain that a ratemaking capital structure of 31.44% long-term debt at a cost rate of 6.60%, and 68.56% common equity at my recommended return on common equity of 11.35% is appropriate.

Q. Have you prepared schedules in support of your testimony?

A. Yes. Included in my surrebuttal testimony are Schedules DWD-SR-1 through DWD-SR-3, which were prepared by me or under my direction.

Q. How is the remainder of your surrebuttal testimony organized?

A. The remainder of my surrebuttal testimony is organized as follows:

- Section IV – Provides my response to Staff Witness Walters;
- Section V – Provides my response to OPC Witness Murray; and
- Section VI – Presents my conclusions.

IV. RESPONSE TO STAFF WITNESS WALTERS

Q. Please summarize Mr. Walters' rebuttal testimony as it pertains to your testimony.

A. Mr. Walters' critiques of my direct testimony include: (1) my use of a business risk adjustment; (2) my calculation of a financial risk adjustment; (3) my use of projected growth rates in the Discounted Cash Flow ("DCF") analysis; (4) the exclusion of the Middlesex Water Company DCF result; (5) his claim that the Predictive Risk Premium Model ("PRPM") violates the Efficient Market Hypothesis ("EMH"); (6) my calculation of market risk premium ("MRP") in the Capital Asset Pricing Model ("CAPM") model; (7) my use of adjusted Beta coefficients ("beta") in the Empirical CAPM ("ECAPM") model; (8) the use of a projected risk-free rate of 4.00%; and (9) my analysis performed for the Non-Price Regulated Proxy Group.

A. Business Risk Adjustment

Q. Please summarize Mr. Walters' argument against your business risk adjustment.

A. Mr. Walters believes that my business risk adjustment is due to the Company's

relative size to my Utility Proxy Group. He states that my size adjustment should be rejected for several reasons: (1) since Confluence is not publicly-traded, one cannot calculate a market capitalization and therefore cannot compare Confluence to the Utility Proxy Group; and (2) Confluence is a subsidiary of Central States Water Resources, Inc. ("Central States Water", or "CSWR"), and as such, Central States Water's size should be considered, not Confluence's.[1]

Q. Is your business risk adjustment based solely on the difference in relative size of Confluence compared to your Utility Proxy Group?

A. No, it is not. As discussed in my rebuttal testimony, Company witnesses Cox and Freeman discuss Confluence Rivers' unique operating risks as compared to traditional water utilities.[2] In the absence of other empirical models, I used the indicated size premium as a proxy for my business risk adjustment.

Q. Do you agree with Mr. Walters' reasons to not include a business risk adjustment?

A. No, I do not. While Confluence is not publicly-traded, Mr. Walters determined a comparable risk proxy group to determine the ROE for Confluence. As his proxy group is assumed to be of comparable risk to Confluence, we can also assume that Confluence would have comparable market multiples (such as market-to-book ratios) as the average proxy group company. Because that is the case, multiplying Confluence's book equity by the average market-to-book ratio of the comparable risk proxy group is a suitable proxy for an estimated market capitalization for Confluence.

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[1] Walters Rebuttal Testimony, at 6.
[2] D'Ascendis Rebuttal Testimony, at 5.

Q. What is your response to Mr. Walters' assertion that the size adjustment is inappropriate because Confluence should not be considered as a stand-alone entity?

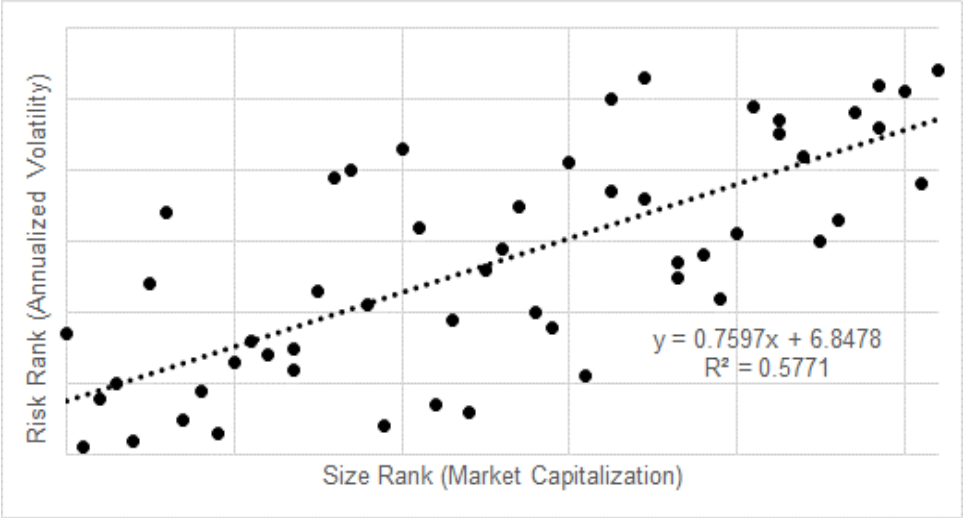
A. As discussed in my direct testimony, the ROE in this proceeding should be set on a stand-alone basis.[3] That is, the ROE witnesses in this case are estimating the ROE for Confluence, not CSWR. Consistent with the stand-alone ratemaking principle, it is reasonable and appropriate to consider the small size of Confluence relative to the companies in the Utility Proxy Group.

Q. Have you performed studies for utility companies that link size and risk?

A. Yes, I have performed two studies that link size and risk for utilities. The first study included the universe of electric, gas, and water companies included in Value Line Standard Edition. For each of the utilities, I calculated the annualized volatility (a measure of risk) and current market capitalization (a measure of size) for each company. After ranking the companies by size (largest to smallest) and risk (least risky to most risky), I made a scatter plot of the data, as shown on Chart 1, below:

[3] D'Ascendis Direct Testimony, at 6-7.

Chart 1: Relationship Between Size and Risk for the *Value Line* Universe of Utility Companies[4]

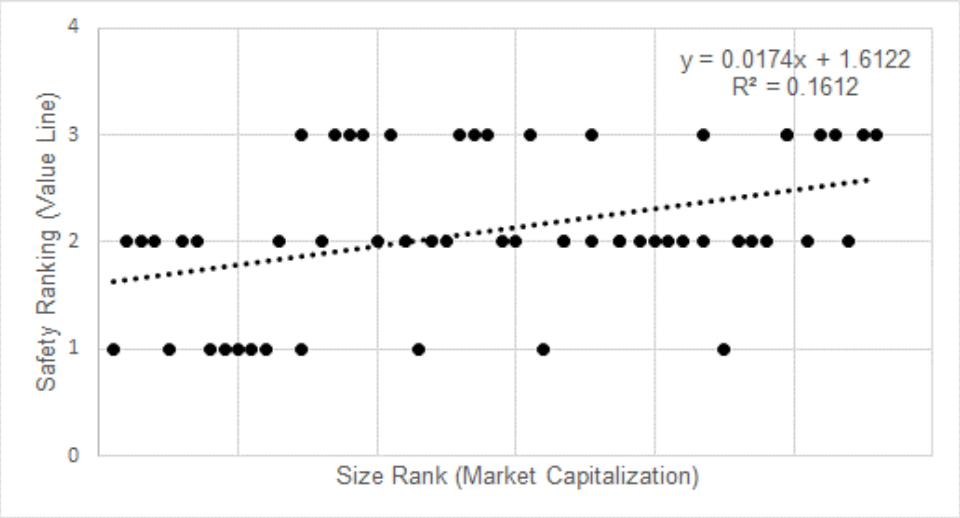


As shown in Chart 1 above, as company size decreases (increasing size rank), the annualized volatility increases, linking size and risk for utilities, which is significant at 95% confidence level.

The second study used the same universe of companies, but instead of using annualized volatility, I used the Value Line Safety Ranking, which is another measure of total risk. After ranking the companies by size and Safety Ranking, I made a scatterplot of those data, as shown on Chart 2, below.

[4] Source: Value Line; S&P Capital IQ.

Chart 2: Relationship Between Size and Safety Ranking for the *Value Line* Universe of Utility Companies[5]



Similar to the first study, as company size decreases, Safety Ranking degrades, indicating a link between size and risk for utilities. This study is also significant at the 95% confidence level.

B. Financial Risk Adjustment

Q. What is Mr. Walters' concern with your calculation of the financial risk adjustment?

A. Mr. Walters argues that the average proxy group equity ratio should be used instead of the high-end equity ratio at arriving at the financial risk adjustment.[6]

Q. Do you agree with Mr. Walters' statement?

A. No, I do not. As noted above, Mr. Cox and Mr. Freeman discuss why the Company's operating risks are different than traditional water utilities, which

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[5] Value Line also ranks stocks for Safety by analyzing the total risk of a stock compared to the approximately 1,700 stocks in the Value Line universe. Each of the stocks tracked in the Value Line Investment Survey is ranked in relationship to each other, from 1 (the highest rank) to 5 (the lowest rank). Safety is a quality rank, not a performance rank, and stocks ranked 1 and 2 are most suitable for conservative investors; those ranked 4 and 5 will be more volatile. Volatility means prices can move dramatically and often unpredictably, either down or up. The major influences on a stock's Safety rank are the company's financial strength, as measured by balance sheet and financial ratios, and the stability of its price over the past five years.

[6] Walters Rebuttal Testimony, at 8-9,

necessitates a higher equity ratio. As discussed in my rebuttal testimony,[7] the Commission recognized this increased risk through a higher ROE than Missouri-American Water Co. Because of the Company's higher operating risk, as compared to the Utility Proxy Group, equity ratios at the top end of the range of the Utility Proxy Group are a more appropriate comparator for Confluence Rivers than the Utility Proxy Group average.

Q. Is your recommended negative financial risk adjustment greater than the one recommended by Mr. Walters?

A. Yes, it is. On page 28 of his direct testimony, Mr. Walters recommends an ROE in the lower half of his range if the Company's capital structure is approved. The maximum downward adjustment indicated by his testimony would be 30 basis points, which is less than my recommended 51-basis-point adjustment. Mr. Walters' statement that my adjustment is understated contradicts his own recommendation.

C. Application of the DCF Model

Q. Please summarize Mr. Walters' concern with the growth rates used in your DCF analysis.

A. Mr. Walters argues that since the average growth rate of the proxy group (7.28%) is higher than the projected growth rate for the economy (4.00%), and no industry can grow at a greater rate than the economy it operates in in perpetuity, a multi stage DCF should have been used.[8] As noted in my rebuttal testimony, eight out of fifteen represented industries, including utilities, grew faster than the overall

[7] D'Ascendis Rebuttal Testimony, at 5-6.
[8] Walters Rebuttal Testimony, at 10.

GDP from 1947 to 2022. Moreover, as suggested by financial literature the public utility industry is in its steady-state, or constant-growth stage of a multi-stage DCF.[9] Mr. Walters' contention that the multi-stage DCF is applicable to Utilities is misplaced.

Q. Please summarize Mr. Walters' concern with the exclusion of the indicated DCF result for Middlesex Water Company.

A. Mr. Walters suggests that I consider the DCF results by removing the low-end outlier (5.08% for Middlesex Water Company) and keeping the high-end outlier (14.28% for SJW Group).[10]

Q. Do you agree with this statement?

A. No, I do not. Mr. Walters is mistaken in assuming that the indicated DCF result for Middlesex Water Company was excluded based on being a low-end outlier. In fact, the standard deviation test, a method accepted by financial literature[11], shows that DCF results from 5.08% to 14.28% should be included in the analysis.[12] However, as stated in my direct testimony,[13] no rational investor would accept a return on equity below the marginal yield on equivalent long-term debt, which is inherently less risky and as such is illogical. However, I conservatively considered the average DCF result including and excluding the indicated DCF result for Middlesex Water Company of 5.08% since it was below that of the marginal yield on A-rated utility debt of 5.88%.[14]

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9 D'Ascendis Rebuttal Testimony, at 21-23.
10 Walters Rebuttal Testimony, at 10.
11 Roger A. Morin, Modern Regulatory Finance, Public Utilities Reports, Inc., 2021 ("Morin"), at 466.
12 The standard deviation test excludes observations that are (+) or (-) two standard deviations away from the mean. ((9.28% +/- 2*2.97%)) results in a range of 3.34% to 15.22%)
13 D'Ascendis Direct Testimony, at 24-25.
14 D'Ascendis Direct Testimony, at 24-25.

D. Application of the PRPM Model

Q. Please summarize Mr. Walters' argument against your use of the PRPM.

A. Mr. Walters posits that since the PRPM uses historical data, it violates the "weak" form of the EMH, which states the use of historical data (i.e., technical analysis) cannot allow an investor to "gain an advantage" on the market.[15]

Q. Do you claim anywhere in your direct testimony or your rebuttal testimony that the PRPM would allow investors to "gain an advantage" the market?

A. No, I do not.

Q. Do you, or any other witness for that matter, claim that any model that they employ in their analyses will allow an investor to "gain an advantage" on the market.

A. No. No model presented in this proceeding is assumed to allow an investor to "gain an advantage" on the market, because all models presented by all witnesses are based on historical data, publicly available data, or a combination of both. For example, in the application of his CAPM, Mr. Walters uses betas, which are based on historical return data, projected and historical measures of the MRP, and projected and normalized measures of the risk-free rate. Following Mr. Walters' logic in dismissing my PRPM would lead him to dismiss the results of his CAPM as well as all of his other models. In view of this, Mr. Walters' concern should be dismissed.

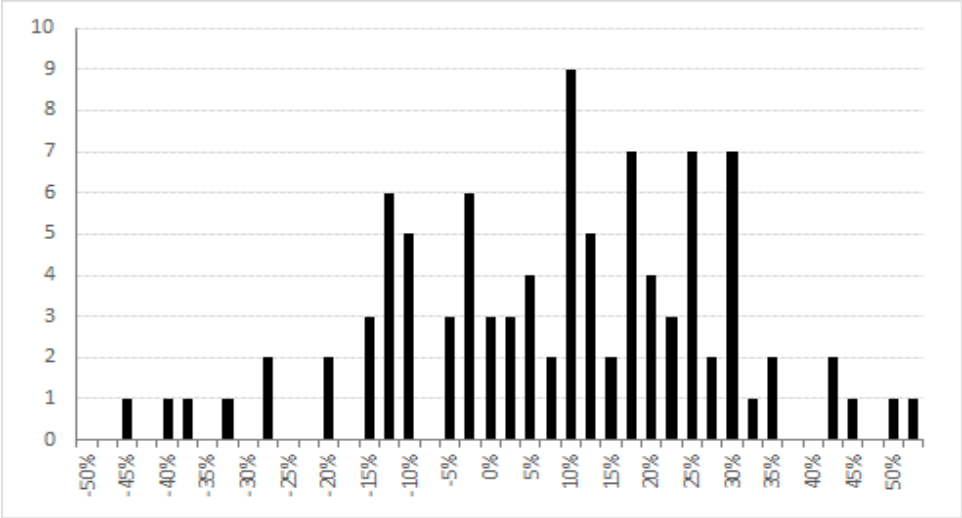
[15] Walters Rebuttal Testimony, at 14-15.

E. Application of the CAPM

Q. Mr. Walters states that your MRP is "excessive and unreliable".[16] Please respond.

A. Even though Mr. Walters questions the reasonableness of my MRP estimate, my estimate of 9.98% is consistent with actual realized MRPs. As shown on Schedule DWD-SR-1, page 1 and in Chart 3, below, my estimates fall within the 53rd percentile of historical MRPs.

Chart 3: Frequency Distribution of Observed MRPs, 1926 - 2022[17]



Q. Is Mr. Walters' comparison of your market returns derived from *Value Line* and Bloomberg data misleading?

A. Yes, it is. His analysis is misleading because my MRP of 9.98% is an average of six estimates, not the three he references in his rebuttal testimony.[18] The indicated market return used in my MRP is 13.94% (9.98% MRP + 3.96% risk-free rate),

16 Walters Rebuttal Testimony, at 16.
17 Schedule DWD-SR-1, page 1.
18 Walters Rebuttal Testimony, at 17.

which is approximately 100 basis points less than Mr. Walters' calculation of 14.95% on page 17 of his rebuttal testimony. Further, of the 97 years of historical market returns available in the Kroll 2023 SBBI® Yearbook, Stocks, Bonds, Bills, and Inflation®, ("SBBI-2023") 49 years, or more than half, had returns that were equal to or higher than my indicated market return. Mr. Walters' opinion that my indicated market returns are unreliable are unsubstantiated.

Given all of the above, my calculation of the MRPs in my CAPM and ECAPM analyses is reasonable. Thus, Mr. Walters' concern should be dismissed.

Q. What is your response to Mr. Walters' concern with the use of adjusted betas in the ECAPM structure?

A. Mr. Walters seems to believe that using adjusted betas in a CAPM analysis addresses the empirical issues with the CAPM. By increasing the expected returns for low beta stocks and decreasing the expected returns for high beta stocks, he concludes there is no need to use the ECAPM. To the contrary, using adjusted betas in a CAPM analysis is not equivalent to using the ECAPM nor is it a duplicative adjustment.

Betas are adjusted because of their general regression tendency to converge toward 1.0 over time, i.e., over successive calculations of beta. As also noted above, numerous studies have determined that the security market line (SML) described by the CAPM formula at any given moment in time is not as steeply sloped as the predicted SML. Morin states:

> …some critics of the ECAPM argue that the use of Value Line adjusted betas in the traditional CAPM amounts to using an ECAPM. This is incorrect. The use of adjusted betas in a CAPM analysis is not equivalent to the ECAPM. Betas are adjusted because of the regression tendency of betas to converge toward 1.0 over time.

* * *

> The use of an adjusted beta by Value Line is correcting for a different problem than the ECAPM. The adjusted beta captures the fact that betas regress toward one over time. The ECAPM corrects for the fact that the CAPM under-predicts observed returns when beta is less than one and over-predicts observed returns when beta is greater than one.
>
> * * *
>
> Another way of looking at it is that the Empirical CAPM and the use of adjusted betas comprise two separate features of asset pricing. Assuming arguendo a company's beta is estimated accurately, the CAPM will still understate the return for low-beta stocks. Furthermore, if a company's beta is understated, the Empirical CAPM will also understate the return for low-beta stocks. Both adjustments are necessary.[19]

Moreover, the slope of the SML should not be confused with beta. As Brigham and Gapenski state:

> The slope of the SML reflects the degree of risk aversion in the economy – the greater the average investor's aversion to risk, then (1) the steeper is the slope of the line, (2) the greater is the risk premium for any risky asset, and (3) the higher is the required rate of return on risky assets.[12]
>
> [12]Students sometimes confuse beta with the slope of the SML. This is a mistake. As we saw earlier in connection with Figure 6-8, and as is developed further in Appendix 6A, beta does represent the slope of a line, but not the Security Market Line. This confusion arises partly because the SML equation is generally written, in this book and throughout the finance literature, as ki = RF + bi(kM – RF), and in this form bi looks like the slope coefficient and (kM – RF) the variable. It would perhaps be less confusing if the second term were written (kM – RF)bi, but this is not generally done.[20]

As noted in Appendix 6A of Brigham and Gapenski's textbook, beta, which accounts for regression bias, is not a return adjustment but rather is based on the slope of a different line.

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19 Morin, at 223-224.

20 Eugene F. Brigham and Louis C. Gapenski, Financial Management: Theory and Practice, The Dryden Press, 1985, at 201-204.

A 1980 study by Litzenberger, et al. found the CAPM underestimates the ROE for companies, such as public utilities, with betas less than 1.00. In that study, the authors applied adjusted betas and still found the CAPM to underestimate the ROE for low-beta companies. Similarly, Brattle Group's Risk and Return for Regulated Industries supports the use of adjusted betas in the ECAPM:

> Note that the ECAPM and the Blume adjustment are attempting to correct for different empirical phenomena and therefore both may be applicable. It is not inconsistent to use both, as illustrated by the fact that the Litzenberger et.al (1980) study relied on Blume adjusted betas and estimated an alpha of 2% points in a short-term version of the ECAPM. This issue sometimes arises in regulatory proceedings.[21]

Hence, using adjusted betas does not address the previously discussed empirical issues with the CAPM. In view of the foregoing, my use of adjusted betas in both the traditional and empirical applications of the CAPM is neither incorrect or inconsistent with the financial literature, nor is it a duplicative adjustment.

Q. Does Mr. Walters have other concerns with your MRP and CAPM analysis?

A. Yes, he does. Mr. Walters argues that the recent projections of the risk-free rate are lower than the ones used in my analysis and, therefore, would decrease the RPM and CAPM results.[22]

Q. Is Mr. Walters' concern warranted?

A. No, it is not. Because cost of common equity analysis is predicated on market expectations, the expected levels of bond yields is a measurable, observable, and relevant data point that is available to and relied on by investors and, as such,

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[21] Bente Villadsen, *et. al*, Risk and Return for Regulated Industries (2017) at 95, endnote 147 of Chapter 4.

[22] Walters Rebuttal Testimony, at 16.

should be reflected in that analysis. Investors' expectations are not improper inputs to cost of common equity estimation models simply because prior projections were not proven correct in hindsight. Moreover, the 30-year Treasury yield reached 4.01% on May 25, 2023, as well as most recently on July 6, 2023, which shows that the use of the projected 4.00% is not inappropriate.

F. Non-Price Regulated Proxy Group

Q. What critiques does Mr. Walters have concerning your analysis applied to the Non-Price Regulated Proxy Group?

A. Mr. Walters has the same comments regarding my analysis applied to the Non-Price Regulated Proxy Group as to the analysis performed for the Utility Proxy Group. I have addressed the critiques related to my application of the DCF, RPM and CAPM analyses in the course of this testimony and will not repeat that discussion here.

V. RESPONSE TO OPC WITNESS MURRAY

Q. Please provide a summary of Mr. Murray's rebuttal testimony as it pertains to your direct testimony.

A. Mr. Murray discusses the following aspects of my direct testimony: (1) my recommended capital structure; (2) the weighting of my ROE model results; (3) the applicability of the PRPM; (4) the application of my total market RPM approach, and by extension, my application of the CAPM; (5) my application of the DCF model; (6) the applicability of my Non-Price Regulated Proxy Group; and (7) my application of a business risk adjustment..

A. Capital Structure

Q. Mr. Murray states that Confluence Rivers should have taken out more debt. Please respond.

A. I addressed Mr. Murray's concern at pages 47 and 48 of my rebuttal testimony and will not address his concern here.

Q. On pages 5 and 6 of his rebuttal testimony, Mr. Murray accuses Confluence Rivers and several other Missouri utilities of manipulating their capital structures to increase returns for equity investors, otherwise known as double leverage. Does he provide any evidence of this alleged manipulation?

A. No, he does not. Mr. Murray's position appears to suggest CSWR is engaging in double leverage to the detriment of Confluence Rivers' customers.[23] My primary concern is that position runs counter to the widely accepted "stand-alone" regulatory principle, which treats each utility subsidiary as its own company. Under the stand-alone approach, the cost of capital is determined using the subsidiary's capital structure and cost of debt and equity. The cost of common equity is generally estimated by reference to a proxy group of firms of comparable risk.

Consistent with the stand-alone principle as discussed previously, the ownership structure does not affect the operating utility's capital structure or cost of capital. Parent entities, like other investors, have capital constraints and must consider the attractiveness of the expected risk-adjusted return of each investment alternative as part of their capital budgeting process. This opportunity cost concept applies regardless of the source of the funding. When funding is provided by a

[23] Murray Rebuttal Testimony, at 5-6.

parent entity, the return on that financing must still be sufficient to provide an incentive to the parent entity to allocate equity capital to the subsidiary or business unit rather than other internal or external investment opportunities. That is, the regulated subsidiary must compete for capital with its affiliates and with other similarly situated utility companies.

From an external investor's perspective, the combined company must provide a return reflecting the risks of the company's constituent parts. Investors therefore value combined entities on a sum-of-the-parts basis, expecting each operating segment to provide its appropriate risk-adjusted return. That practical financial principle is consistent with the regulatory principle of treating utilities as stand-alone entities. From both perspectives, it is the utility's operating risk that defines the capital structure and cost of capital, not investors' sources of funds.

Contrary to those basic principles, Mr. Murray's double leverage argument assumes the required return depends on the source of financing, not on the risks of the underlying utility operations. The position that a company would have different cost rates depending on how its investors fund their equity investments violates the widely acknowledged economic "law of one price," which states that in an efficient market, identical assets would have the same value. In other words, two utilities, identical in all respects but for their form of ownership, should have the same common equity cost rates.

Moreover, if the common equity of a subsidiary were held by both the parent and an external investor, the equity held by the parent would have one required return, and the equity held by outside investors would have another. To the extent the required returns differ, so would the value of the equity. But in an efficient

market, identical assets must have the same price (value). If not, the difference quickly would be arbitraged away. As Morin noted in New Regulatory Finance:

> Carrying the double leverage standard to its logical conclusion leads to even more unreasonable prescriptions. If the common shares of a subsidiary were held by both the parent and by individual investors, the equity contributed by the parent would have one cost under the double leverage computation while the equity contributed by the public would have another.[24]

The double leverage argument also requires every affiliate within the corporate family to have the same cost of capital, regardless of differences in risk. Morin further noted:

> Just as individual investors require different returns from different assets in managing their personal affairs, why should regulation cause parent companies making investment decisions on behalf of their shareholders to act any differently? A parent company normally invests money in many operating companies of varying sizes and varying risks. These operating subsidiaries pay different rates for the use of investor capital, such as long-term debt capital, because investors recognize the differences in capital structure, risk, and prospects between the subsidiaries. Yet, the double leverage calculation would assign the same return to each activity, based on the parent's cost of capital. Investors recognize that different subsidiaries are exposed to different risks, as evidenced by the different bond ratings and cost rates of operating subsidiaries. The same argument carries over to common equity. If the cost rate for debt is different because the risk is different, the cost rate for common equity is also different, and the double leverage adjustment shouldn't obscure this fact.[25]

Longstanding academic literature has thoroughly discussed the flaws associated with the double leverage approach. For example:

1. Pettway and Jordan (1983), and Beranek and Miles (1988) point out the flaws in the double leverage argument, particularly the excess return

[24] Morin, at 523.
[25] Morin, at 524-525.

argument, and also demonstrate that the "stand-alone" method is the superior approach.[26]

2. Rozeff (1983) discusses the ratepayer cross-subsidies of one subsidiary by another when employing double leverage.[27]

3. Lerner (1973) concludes that the returns granted to equity investors must be based on the risks to which the investors' capital is exposed and not the investors' source of funds.[28]

Basic finance texts reach the same conclusions. In Principles of Corporate Finance, 8th edition, Brealey, Myers, and Allen state:

> In principle, each project should be evaluated at its own opportunity cost of capital; the true cost of capital depends on the use to which the capital is put. If we wish to estimate the cost of capital for a particular project, it is project risk that counts.[29]

Likewise, in Modern Corporate Finance, 1st edition, Shapiro states:

> Each project has its own required return, reflecting three basic elements: (1) the real or inflation-adjusted risk-free interest rate; (2) an inflation premium approximately equal to the amount of expected inflation; and (3) a premium for risk. The first two cost elements are shared by all projects and reflect the time value of money, whereas the third component varies according to the risks borne by investors in the different projects. For a project to be acceptable to the firm's shareholders, its return must be sufficient to compensate them for all three cost components. This minimum or required return is the project's cost of capital and is sometimes referred to as a hurdle rate.[30]

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26 Richard H. Pettway and Bradford D. Jordan, *Diversification, Double Leverage, and the Cost of Capital,* The Journal of Financial Research, Vol. VI, No. 4, Winter 1983; William Beranek and James A. Miles, *The Excess Return Argument and Double Leverage,* The Financial Review, Vo. 23, No. 2, May 1988.

27 Michael S. Rozeff, *Modified Double Leverage – A New Approach*, Public Utilities Fortnightly, March 31, 1983.

28 Eugene M. Lerner, *What are the Real Double Leverage Problems?* Public Utilities Fortnightly, June 7, 1973.

29 Richard A. Brealey, Steward C. Meyers, Franklin Allen, Principles of Corporate Finance, McGraw-Hill Irwin, 8th Ed., 2006, at 234.

30 Alan C. Shapiro, Modern Corporate Finance, Wiley, 1st Ed., 1990, at 276.

The preceding paragraph bears a crucial message: the cost of capital for a project depends on the riskiness of the assets being financed, not on the identity of the firm making the investment. Simply put, the notion of double leverage runs counter to both financial and regulatory principles.

Lastly, double leverage arguments have been rejected by several regulatory commissions, including the Maryland Public Service Commission:

> We reject People's Counsel's proposed capital structure [reflecting a double leverage adjustment] because it suffers from numerous flaws. First, it assumes that the rate of return depends on the source of capital rather than the risks faced by the capital.[31]

The Washington Utilities and Transportation Commission has cited to FERC's position on the use of double leverage in support of its decision in Docket No. UE 050684:

> The FERC does not embrace the concept of double leverage. For purposes of calculating rate of return for wholly owned subsidiaries, FERC uses the stand-alone capital structure and return on equity of the subsidiary so long as the subsidiary issues its own debt, maintains its own credit ratings and meets other standards related to equity ratio. The courts have upheld this policy. *See Missouri Pub. Serv. Comm'n v. Federal Energy Reg Comm'n, 215 F.3d 1, 342 U. S. App. DC. 1* (D.C. Cir. June 27, 2000).[32]

In view of all of the above, the Commission should dismiss Mr. Murray's double leverage arguments and approve Confluence Rivers' actual capital structure.

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[31] Maryland Public Service Commission, Order No. 81517, Case No. 9092, *In the Matter of the Application of Potomac Electric Power Company for Authority to Revise its Rate and Charges for Electric Service and for Certain Rate Design Changes*, July 19, 2007, at 73. [Clarification added]

[32] Washington Utilities and Transportation Commission, Docket No. UE 050684, Order No. 4, at 117.

B. Equal Weighting of Model Results

Q. Mr. Murray believes that you should not have placed equal weight on your indicated model results.[33] Please respond.

A. As discussed in my direct testimony,[34] the use of multiple models adds reliability to the estimation of the common equity cost rate and is supported in both academic literature and regulatory precedent.

Q. Mr. Murray proposes to give less weight to risk premium models because risk premium models (e.g., CAPM, RPM) do not reflect investor expectations because the results of those models did not reflect the decline in interest rates in 2020 and 2021.[35] Do you agree?

A. No. Mr. Murray's position that model results did not move in unison with interest rates is consistent with the inverse relationship between equity risk premiums ("ERP") and interest rates as I discussed in my rebuttal testimony.[36] The inverse relationship between ERPs and interest rates indicates that as interest rates increase/decrease, the investor required ROE increases/decreases, but not in lockstep.

C. Predictive Risk Premium Model

Q. Mr. Murray states that your PRPM results for your Utility Proxy Group vary widely.[37] Is that unique to the PRPM?

A. No, it is not, as Mr. Murray also makes the same claim regarding my DCF model results. Generally, the selection of a proxy group does not guarantee that the

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33 Murray Rebuttal Testimony, at 9-10.
34 D'Ascendis Direct Testimony, at 21, 48.
35 Murray Rebuttal Testimony, at 9-10.
36 D'Ascendis Rebuttal Testimony, at 29-30.
37 Murray Rebuttal Testimony, at 11.

results of individual companies will be clustered around a measure of central tendency. Variations in individual company results are common and are reflective of expectations of future risks and growth for each individual company. Because of this variation, an analyst should attempt to estimate an ROE from that range, not simply dismiss a result because it is different than that of another proxy group company.

Q. Mr. Murray claims that you do not provide practical examples of the PRPM.[38] Please respond.

A. As discussed in my direct testimony, the PRPM is based on the research of Dr. Robert F. Engle, dating back to the early 1980s.[39] Dr. Engle discovered that the volatility of market prices, returns, and risk premiums clusters over time, making prices, returns, and risk premiums highly predictable. In 2003, he shared the Nobel Prize in Economics for this work, characterized as "methods of analyzing economic time series with time-varying volatility (ARCH)."[40] Dr. Engle[41] noted that relative to volatility, "the standard tools have become the ARCH/GARCH[42] models." Hence, the methodology is not exclusively used by me.

In addition, the GARCH methodology has been well tested by academia since Engle et al.'s research was originally published in 1982, over 40 years ago. I use the well-established GARCH methodology to estimate the PRPM model using a standard commercial and relatively inexpensive statistical package,

38 Murray Rebuttal Testimony, at 11-12.
39 D'Ascendis Direct Testimony, at 26-27.
40 www.nobelprize.org.
41 Robert Engle, *GARCH 101: The Use of ARCH/GARCH Models in Applied Econometrics*, Journal of Economic Perspectives, Volume 15, No. 4, Fall 2001, at 157-168.
42 Autoregressive Conditional Heteroskedasticity/Generalized Autoregressive Conditional Heteroskedasticity.

Eviews,©[43] to develop a means by which to estimate a predicted ERP which, when added to a bond yield, results in a cost of common equity.

The PRPM as applied to utilities is also in the public domain, having been published six times in academically peer-reviewed journals: Journal of Economics and Business (June 2011 and April 2015),[44] The Journal of Regulatory Economics (December 2011),[45] The Electricity Journal (May 2013 and March 2020),[46] and Energy Policy (April 2019).[47] Notably, none of these articles has been rebutted in the academic literature.

Finally, the PRPM was presented to a number of utility industry/regulatory/academic groups including the following: the Edison Electric Institute Cost of Capital Working Group; the NARUC Staff Subcommittee on Accounting and Finance; the National Association of Electric Companies Finance/Accounting/Taxation and Rates and Regulations Committees; the NARUC Electric Committee; the Wall Street Utility Group; the Indiana Utility

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43 In addition to Eviews,® the GARCH methodology can be applied and the PRPM derived using other standard statistical software packages such as SAS, RATS, S-Plus and JMulti, which are not cost-prohibitive. The software that I used in this proceeding, Eviews,® currently costs $600 - $700 for a single user commercial license. In addition, JMulti is a free downloadable software with GARCH estimation applications.

44 Eugene A. Pilotte and Richard A. Michelfelder, *Treasury Bond Risk and Return, the Implications for the Hedging of Consumption and Lessons for Asset Pricing*, Journal of Economics and Business, June 2011, 582-604. and Richard A. Michelfelder, *Empirical Analysis of the Generalized Consumption Asset Pricing Model: Estimating the Cost of Capital*, Journal of Economics and Business, April 2015, 37-50.

45 Pauline M. Ahern, Frank J. Hanley, and Richard A. Michelfelder, *New Approach to Estimating the Cost of Common Equity Capital for Public Utilities*, The Journal of Regulatory Economics, December 2011, at 40:261-278.

46 Richard A. Michelfelder, Pauline M. Ahern, Dylan W. D'Ascendis, and Frank J. Hanley, *Comparative Evaluation of the Predictive Risk Premium Model, the Discounted Cash Flow Model and the Capital Asset Pricing Model for Estimating the Cost of Common Equity,* The Electricity Journal, April 2013, at 84-89; and Richard A. Michelfelder, Pauline M. Ahern, and Dylan W. D'Ascendis, *Decoupling, Risk Impacts and the Cost of Capital*, The Electricity Journal, January 2020.

47 Richard A. Michelfelder, Pauline M. Ahern, and Dylan W. D'Ascendis, *Decoupling Impact and Public Utility Conservation Investment*, Energy Policy, April 2019, 311-319.

Regulatory Commission Cost of Capital Task Force; the Financial Research Institute of the University of Missouri Hot Topic Hotline Webinar; and the Center for Research and Regulated Industries Annual Eastern Conference on two occasions.

Q. Is the PRPM cited in academic literature in addition to the articles cited above?

A. Yes, it is. The PRPM is cited in the following textbooks on cost of capital by authors unaffiliated with the authors of the academic articles cited above:

- Shannon Pratt and Roger Grabowski, Cost of Capital: Applications and Examples, (Fifth Edition), Wiley & Sons, 2015;
- Shannon Pratt and Roger Grabowski, *The Lawyer's Guide to Cost of Capital: Understanding Risk and Return for Valuing Businesses and Other Investments*, ABA Publishing, 2015; and
- Roger A. Morin, Modern Regulatory Finance, PUR Books, 2021.

On the subject of the PRPM, Pratt and Grabowski state:

> Empirical testing of this new model has yielded data allowing a comparison of results with other techniques including the DCF and CAPM. The results- combined with the stability of PRPM estimates- suggests that the model is robust when applied to electric, natural gas, combination electric and gas, and water utility companies.[48]

In addition, Morin states:

> PRPM cost of capital estimates then began to proliferate based on extensive work published in the Journal of Regulatory Economics, The Electricity Journal, and Energy Policy Journal. It is only a matter of time before the technique becomes more mainstream in regulatory proceedings.

[48] Shannon Pratt, Roger Grabowski, *The Lawyer's Guide to The Cost of Capital: Understanding Risk and Return for Valuing Businesses and Other Investments*, American Bar Association, 2015, at 421.

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> It is well known that security markets exhibit periods of relative calm and periodic high volatility for a variety of reasons. The GARCH technique does not explain the volatility but *models* its clustering. Investment analysts and financial institutions typically use models such as GARCH to estimate the volatility of returns for stocks, bonds, and market indices. They use the resulting information to help determine pricing decisions and judge which assets will potentially provide higher returns, as well as to forecast the returns. At its core, GARCH is a statistical modelling technique used in analyzing time-series data where the variance error is believed to be serially uncorrelated, and is used to help predict the volatility of returns on financial assets.[49]

Q. Has the PRPM been implicitly accepted by other regulatory commissions?

A. Yes. In Docket No. 2017-292-WS, the Public Service Commission of South Carolina ("PSC SC") accepted Blue Granite Water Company's entire requested ROE, which included the PRPM. The relevant portion of that commission's order states:

> The Commission finds Mr. D'Ascendis' arguments persuasive. He provided more indicia of market returns, by using more analytical methods and proxy group calculations. Mr. D'Ascendis' use of analysts' estimates for his DCF analysis is supported by consensus, as is his use of the arithmetic mean. The Commission also finds that Mr. D'Ascendis' non-price regulated proxy group more accurately reflects the total risk faced [by] price regulated utilities and CWS. Furthermore, there is no dispute that CWS is significantly smaller than its proxy group counterparts, and, therefore, it may present a higher risk. An appropriate ROE for CWS is 10.45% to 10.95%. The Company used an ROE of 10.5% in computing its Application, a return on the low end of Mr. D'Ascendis' range, and the Commission finds that ROE is supported by the evidence.[50]

In addition, in Docket No. W-354, Subs 363, 364 and 365, the North Carolina Utilities Commission ("NCUC") approved my RPM and CAPM analyses,

[49] Morin, at 139-141.
[50] PSC SC Docket No. 2017-292-WS - Order No. 2018-345, at 14. (May 17, 2018)

which used PRPM analyses as presented in this proceeding. The relevant portion of the commission's order states:

> In doing so the Commission finds that the DCF (8.81%), Risk Premium (10.00%) and CAPM (9.29%) model results provided by witness D'Ascendis, as updated to use current rates in D'Ascendis Late-Filed Exhibit No. 1, as well as the risk premium (9.57%) analysis of witness Hinton, are credible, probative, and are entitled to substantial weight as set forth below.[51]

Q. Please summarize your response to Mr. Murray with respect to the PRPM.

A. Mr. Murray's concerns regarding the use of the PRPM in a regulatory setting should be dismissed for the following reasons: (1) the model itself has withstood academic rigor, being admitted six times in four different peer-reviewed academic journals, and has not been rebutted; (2) the findings of the model and its applications are published in textbooks that specialize in the cost of capital; (3) the model has been accepted in full or in part in other regulatory proceedings; and (4) the GARCH model, upon which the PRPM is based, is contemplated by investment professionals. In view of the above, the Commission should consider the PRPM in their determination of the ROE in this proceeding.

D. <u>Total Market Risk Premium Model</u>

Q. What are Mr. Murray's concerns with your application of the total market RPM?

A. Mr. Murray's concerns are the following: (1) my projected market returns are not sustainable; (2) the S&P Utilities Index is not representative of utilities; (3) my use of projected interest rates; and (4) my use of income returns in favor of total returns.

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[51] NCUC Docket No. W-354, Sub 363, 364, 365, *Order Granting Partial Rate Increase and Requiring Customer Notice*, at PDF 72 (March 31, 2020).

Q. Mr. Murray states the indicated market return you provide is unsustainable because it exceeds growth in GDP.[52] Are market returns and GDP growth related?

A. No, they are not. As shown on Schedule DWD-SR-2, the correlation between market returns and GDP growth is 0.14% and is not statistically significant. As such, any comparison between market returns and GDP growth is of no value.

Q. Mr. Murray states that the S&P Utilities Index ("SPU") is not reflective of utility companies.[53] Does he provide any evidence to support his statement?

A. No, he does not.

Q. Have you conducted an analysis that determined the percentage of net operating income ("NOI") and assets attributable to regulated operations for the SPU companies?

A. Yes, I did. On Schedule DWD-SR-3, the average NOI and assets attributable to regulated operations of the SPU companies are 95.17% and 81.27%, respectively. Weighted by market capitalization, the SPU would reflect 102.63% and 78.85% regulated operations, based on NOI and assets, respectively. In view of these results, Mr. Murray's concerns regarding the applicability of the SPU should be dismissed by the Commission.

Q. Mr. Murray calculates a geometric mean ERP for the SPU. Are geometric mean risk premiums appropriate for cost of capital purposes?

A. No, they are not. Only arithmetic mean return rates, ERP, and yields are appropriate for cost of capital purposes because *ex-post* (historical) total returns

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52 Murray Rebuttal Testimony, at 14-15.
53 Murray Rebuttal Testimony, at 16-18.

and ERPs differ in size and direction over time, indicating volatility, i.e., variance or risk. The arithmetic mean captures the prospect for variance in returns and ERPs, providing the valuable insight needed by investors in estimating risk in the *future* when making a *current* investment. Absent such valuable insight into the potential variance of returns, investors cannot meaningfully evaluate prospective risk. The geometric mean of ex-post ERPs provides no insight into the potential variance of future returns because the geometric mean relates the change over many time periods to a constant rate of change, rather than the year-to-year fluctuations, or variance, *critical to risk analysis.* Therefore, the geometric mean is of little to no value to investors seeking to measure risk. Moreover, from a statistical perspective, since stock returns and ERPs are randomly generated, the arithmetic mean is expectational and consistent with the prospective nature of the cost of capital and ratemaking noted above.

The financial literature is quite clear that risk is measured by the variability of expected returns, i.e., the probability distribution of returns.[54] SBBI-2023 explains in detail why the arithmetic mean is the correct mean to use when estimating the cost of capital.[55]

In addition, Weston and Brigham provide the standard financial textbook definition of the riskiness of an asset when they state:

> The riskiness of an asset is defined in terms of the likely variability of future returns from the asset. (emphasis added)[56]

Furthermore, Morin states:

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54 Eugene F. Brigham, Fundamentals of Financial Management, (The Dryden Press, 1989), at 639.
55 SBBI-2023, at 193.
56 J. Fred Weston and Eugene F. Brigham, Essentials of Managerial Finance, 3rd Edition (The Dryden Press, 1974), at 272.

> The geometric mean answers the question of what constant return you would have had to achieve in each year to have your investment growth match the return achieved by the stock market. The arithmetic mean answers the question of what growth rate is the best estimate of the future amount of money that will be produced by continually reinvesting in the stock market. It is the rate of return which, compounded over multiple periods, gives the mean of the probability distribution of ending wealth. (emphasis added)[57]

In addition, Brealey and Myers note:

> The proper uses of arithmetic and compound rates of return from past investments are often misunderstood... Thus the arithmetic average of the returns correctly measures the opportunity cost of capital for investments... *Moral*: If the cost of capital is estimated from historical returns or risk premiums, use arithmetic averages, not compound annual rates of return. (italics in original)[58]

As previously discussed, investors gain insight into relative riskiness by analyzing expected *future* variability. This is accomplished using the arithmetic mean of a random distribution of returns/premiums. Only the arithmetic mean considers all the returns/premiums over a period of time, hence, providing meaningful insight into the variance and standard deviation of those returns/premiums.

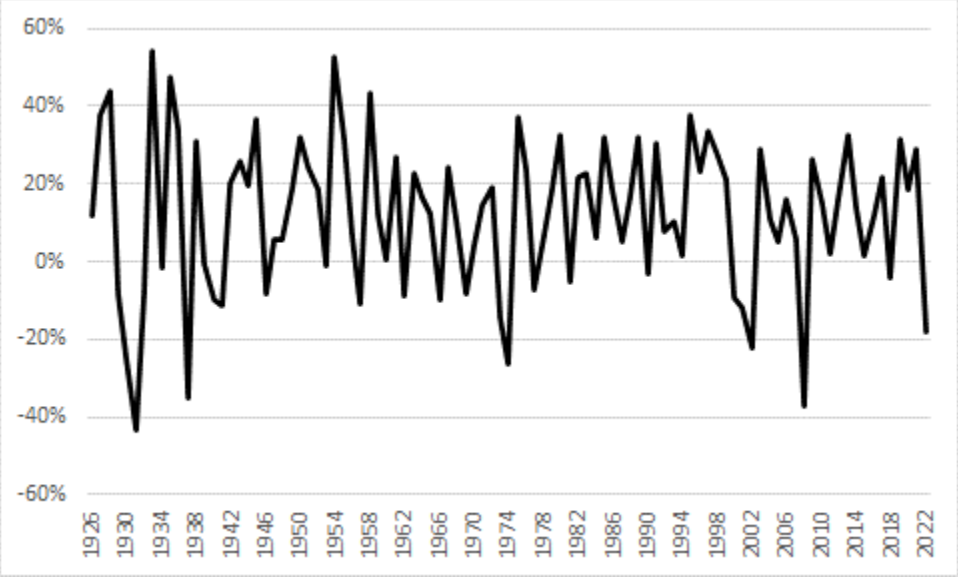
Q. Can it be demonstrated that the arithmetic mean takes into account all of the returns and, therefore, is the only appropriate mean to use when estimating the cost of capital?

A. Yes. Pages 1 and 2 of Schedule DWD-SR-1 graphically demonstrate this. Page 2 charts the SBBI-2023 returns on large company stocks for each and every year from 1926 through 2022. It is clear from looking at the year-to-year variation of

[57] Morin, at 133.
[58] Brealey and Myers, at 146 – 147.

these returns that stock market returns and, hence, MRPs vary (see Chart 4, below).

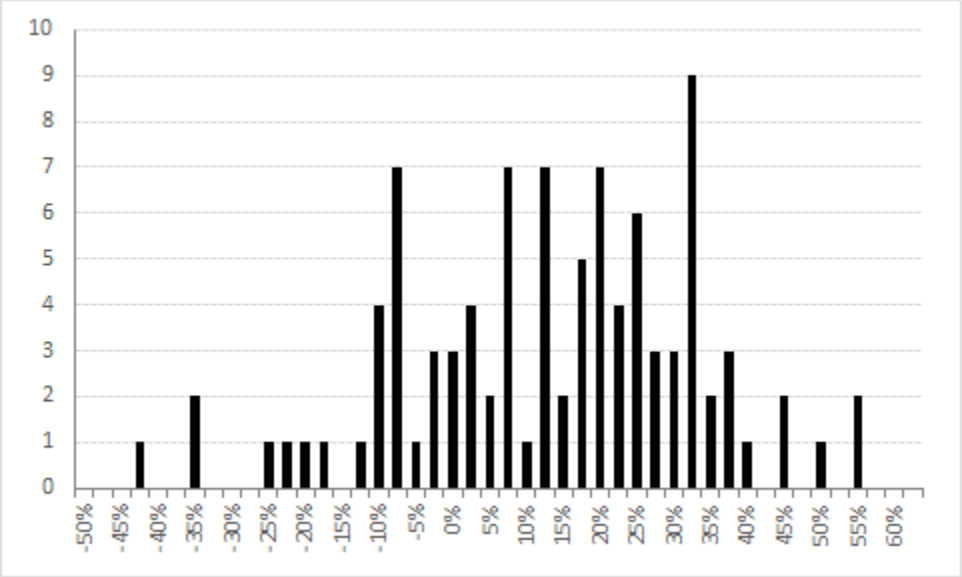
Chart 4: U.S. Large Company Stock Returns 1926-2022[59]



The distribution of each of those returns for the period from 1926 through 2022 is shown on page 1 of Schedule DWD-SR-1 and Chart 5, below.

[59] Schedule DWD-SR-1, page 2, SBBI-2023 at Appendix A-1.

Chart 5: Frequency Distribution of Observed Market Returns, 1926 - 2022[60]



There is a bell-shaped pattern to the probability distribution of returns, an indication that they are randomly generated and not serially correlated. The arithmetic mean of this distribution of returns considers each and every return in the distribution. In doing so, the arithmetic mean takes into account the standard deviation or likely variance which may be experienced in the future when estimating the rate of return based on such historical returns.

In contrast, the geometric mean considers only two of the returns, the initial and terminal years, which, in this case, are 1926 and 2022. Based on only those two years, a constant rate of return is calculated by the geometric average. That constant return is graphically represented by a flat line, showing no year-to-year variation for the entire 1926 to 2022 time period. This is obviously unrealistic, based on the histogram shown in Chart 5 above.

[60] Schedule DWD-SR-1, page 1.

Q. Mr. Murray disagrees with your use of projected interest rates.[61] Please respond.

A. It is inappropriate to use current interest rates to determine an expected ROE. Using current measures, like interest rates, is inappropriate for cost of capital and ratemaking purposes because both cost of capital and ratemaking are prospective in nature. The cost of capital, including the cost rate of common equity, is expectational in that it reflects investors' expectations of future capital markets, including an expectation of interest rate levels, as well as future risks. As Morningstar observes:

> It is important to note that the expected equity risk premium, as it is used in discount rates and cost of capital analysis, is a forward-looking concept. That is, the equity risk premium that is used in the discount rate should be reflective of what investors think the risk premium will be going forward.[62]

Ratemaking is also prospective in that the rates set in this proceeding will be in effect for a period in the future. As such, my use of prospective interest rates is appropriate.

Q. Mr. Murray states your use of income returns on bond yields causes your ERPs and MRPs to be overstated.[63] Do you agree with his statement?

A. No, I do not. As indicated in SBBI-2023:

> Another point to keep in mind when calculating the equity risk premium is that the income return on the appropriate-horizon Treasury security, rather than the total return, is used in the calculation.
>
> The total return comprises three return components: the income return, the capital appreciation return, and the reinvestment return. The income return is defined as the portion of the total return that

61 Murray Rebuttal Testimony, at 19.
62 Morningstar, Inc., 2013 Ibbotson Stocks, Bonds, Bills and Inflation Valuation Yearbook, at 53.
63 Murray Rebuttal Testimony, at 19-20.

> results from a periodic cash flow or, in this case, the bond coupon payment. The capital appreciation return results from the price change of a bond over a specific period. Bond prices generally change in reaction to unexpected fluctuations in yields. Reinvestment return is the return on a given month's investment income when reinvested into the same asset class in the subsequent months of the year. The income return is thus used in the estimation of the equity risk premium because it represents the truly riskless portion of the return.[64]

Also, as shown in SBBI-2023 on page 137, the standard deviation for the income return on long-term government bonds is 2.60%, which is the lowest (i.e., least risky) measure of all bond returns followed by SBBI-2023. The total return on long-term government bonds has a standard deviation of 10.30%, which is the highest (i.e., most risky) measure of all bond returns followed by SBBI. These measures alone warrant the use of the income returns on bonds for use in the calculation of the ERP or MRP in a RPM or CAPM analysis.

E. DCF Model

Q. What are Mr. Murray's concerns with your application of the DCF model?

A. Mr. Murray disagrees with my exclusive use of earnings per share ("EPS") growth rates and my exclusion of Middlesex Water Company ("MSEX") from my DCF analysis. As I discussed my rationale regarding my exclusion of MSEX in by direct testimony, rebuttal testimony, and previously in this testimony, I will not repeat that discussion here.

Q. Is the use of analysts' earnings growth projections in the DCF model supported by financial literature?

A. Yes, it is. Myron Gordon, the "father" of the standard regulatory version of the DCF model widely utilized throughout the United States in rate base/rate of return

[64] SBBI-2023, at 192-193.

regulation, recognized the significance of analysts' forecasts of growth in EPS in a speech he gave in March 1990 before the Institute for Quantitative Research and Finance,[65] stating on page 12:

> We have seen that earnings and growth estimates by security analysts were found by Malkiel and Cragg to be superior to data obtained from financial statements for the explanation of variation in price among common stocks… estimates by security analysts available from sources such as IBES are far superior to the data available to Malkiel and Cragg.
>
> * * *
>
> Eq (7) is not as elegant as Eq (4), but it has a good deal more intuitive appeal. It says that investors buy earnings, but what they will pay for a dollar of earnings increases with the extent to which the earnings are reflected in the dividend or in appreciation through growth.

Professor Gordon recognized that the total return is largely affected by the terminal price, which is mostly affected by earnings (hence P/E multiples).

Studies performed by Cragg and Malkiel[66] demonstrate that analysts' forecasts are superior to historical growth rate extrapolations. While some question the accuracy of analysts' forecasts of EPS growth, the level of accuracy of those analysts' forecasts well after the fact does not really matter. What is important is the forecasts reflect widely held expectations influencing investors at the time they make their pricing decisions, and hence, the market prices they pay.

In addition, Jeremy J. Siegel also supports the use of security analysts' EPS growth forecasts when he states:

> For the equity holder, the source of future cash flows is the earnings of firms.

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[65] Myron J. Gordon, *The Pricing of Common Stock*, Presented before the Spring 1990 Seminar, March 27, 1990 of the Institute for Quantitative Research in Finance, Palm Beach, FL.

[66] John G. Cragg and Burton G. Malkiel, Expectations and the Structure of Share Prices (University of Chicago Press, 1982) Chapter 4.

* * *

> Some people argue that shareholders most value stocks' cash dividends. But this is not necessarily true.

* * *

> Since the price of a stock depends primarily on the present discounted value of all expected future dividends, it appears that dividend policy is crucial to determining the value of the stock. However, this is not generally true.

* * *

> Since stock prices are the present value of future dividends, it would seem natural to assume that economic growth would be an important factor influencing future dividends and hence stock prices. However, this is not necessarily so. The determinants of stock prices are earnings and dividends on a *per-share* basis. Although economic growth may influence *aggregate* earnings and dividends favorably, economic growth does not necessarily increase the growth of per-share earnings of dividends. It is earnings per share (EPS) that is important to Wall Street because per-share data, not aggregate earnings or dividends, are the basis of investor returns. (italics in original)[67]

F. Non-Price Regulated Proxy Group

Q. Mr. Murray dismisses your Non-Price Regulated Proxy Group because utilities have different risk profiles than companies in competitive industries.[68] Please respond.

A. As to the comparability of my Non-Price Regulated and Utility Proxy Groups, the selection criteria for my Non-Price Regulated Proxy Group was based on ranges of two measures of risk, the unadjusted beta of the Utility Proxy Group, which measures systematic, or market risk, and the standard error of the regression, which gave rise to those betas, measuring non-systematic or diversifiable risk.

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[67] Jeremy J. Siegel, Stocks for the Long Run – The Definitive Guide to Financial Market Returns and Long-Term Investment Strategies, McGraw-Hill 2002, pp. 90-94.

[68] Murray Rebuttal Testimony, at 23.

Systematic plus non-systematic risk is one definition of total risk. This is agreed to by Mr. Murray in his direct testimony at page 40.

As discussed in my direct testimony, business and financial risks may vary between companies and proxy groups, but if the collective average betas and standard errors of the regression of the groups are similar, then the total, or aggregate, non-diversifiable market risks and diversifiable risks are similar.[69]

Q. Is there a specific advantage to using your selection criteria, which uses measures of systematic and unsystematic risk, instead of using the combination of business and financial risk?

A. Yes. *Value Line* unadjusted betas and the standard error of the regressions giving rise to those betas are measurable objective values, whereas total business risk[70] and financial risk measures are more subjective.

Q. Have you used other measures of total risk to compare your Utility Proxy Group and your Non-Price Regulated Proxy Group?

A. Yes, I have. I compared the average and median Value Line Safety Ranking for the Utility Proxy Group and Non-Price Regulated Proxy Group. As shown in Table 1, below, my Non-Price Regulated Group continues to be similar in total risk to my Utility Proxy Group.

69 D'Ascendis Direct Testimony, at 45-46, Schedule DWD-6.

70 Business risk in excess of size risk, which is measurable, as discussed previously.

Table 1: Risk Assessment of Non-Price Regulated Proxy Group and Utility Proxy Groups Using *Value Line* Safety Ranking

Group	Average Safety Rank	Median Safety Rank
Utility Proxy Group	2.67	3.00
Non-Price Reg. Proxy Group	1.67	2.00

G. Business Risk Adjustment

Q. Mr. Murray states that my business risk adjustment is solely based on relative size.[71] Is this true?

A. No, it is not. As discussed previously, my business risk adjustment also reflects the Company's increased operating risk as compared to the Utility Proxy Group. I used the size premium study as a proxy for business risk.

Q. Does Mr. Murray include a business risk adjustment?

A. Yes. Mr. Murray recommends a 65-basis-point risk premium based on the Company's increased business risk.[72]

VI. CONCLUSION

Q. Should any or all of the arguments made by the Opposing Witnesses persuade the Commission to authorize a ROE for Confluence Rivers that is below your recommendation?

A. No, they should not. An overall weighted average cost of capital of 9.86%, which includes a cost of common equity of 11.35% is both reasonable and conservative. It will provide Confluence Rivers with sufficient earnings to enable it to attract necessary new capital efficiently and at a reasonable cost.

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71 Murray Rebuttal Testimony, at 24.
72 Murray Direct Testimony, at 44.

Q. Should any or all of the arguments made by the Opposing Witnesses persuade the Commission to approve a capital structure other than the actual capital structure of the Company?

A. No, they should not. An approved capital structure other than the Company's actual capital structure may result in a misrepresentation of their cost of capital.

Q. Does the Company's cost of long-term debt remain reasonable?

A. Yes, it does.

Q. Does this conclude your surrebuttal testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Confluence Rivers Utility Operating Company, Inc.'s Request for Authority to Implement a General Rate Increase for Water Service and Sewer Service Provided in Missouri Service Areas.	)))))	**File No. WR-2023-0006**

VERIFICATION OF DYLAN W. D'ASCENDIS

STATE OF NEW JERSEY)
)
COUNTY OF BURLINGTON)

I, Dylan W. D'Ascendis, of lawful age, under penalty of perjury, and pursuant to Section 509.030, RSMo, state as follows:

1. My name is Dylan W. D'Ascendis. I am employed by ScottMadden, Inc. as Partner. My business address is 3000 Atrium Way, Suite 200, Mount Laurel, NJ 08054. I have been retained by Confluence Rivers Utility Operating Company, Inc. to provide testimony in this case.

2. My Surrebuttal Testimony on behalf of Confluence Rivers Utility Operating Company, Inc. is attached to this verification.

3. My answers to each question in the attached surrebuttal testimony are true and correct to the best of my knowledge, information, and belief.

__/s/ Dylan W. D'Ascendis_____
Dylan W. D'Ascendis

_July 21, 2023_____
Date

Confluence Rivers (MO) Utility Operating Company, Inc.
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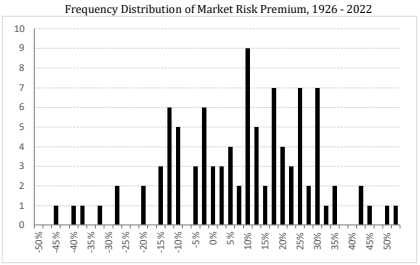
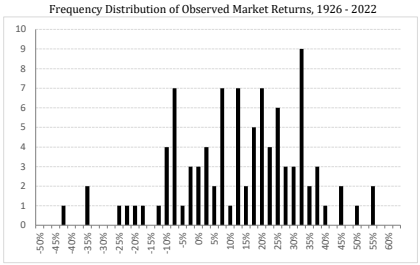
Supporting Schedules Accompanying the Surrebuttal Testimony of
Dylan W. D'Ascendis, CRRA, CVA

Confluence Rivers (MO) Utility Operating Company, Inc.
Frequency Distribution of Market Risk Premium and Market Returns

Frequency Distribution of Market Risk Premium, 1926 - 2022



Frequency Distribution of Observed Market Returns, 1926 - 2022



	Large Company Stocks Total Returns	Long-Term Government Bond Income Returns	MRP
Year	**Jan-Dec***	**Jan-Dec***	**Jan-Dec***
1926	0.1162	0.0373	0.0789
1927	0.3749	0.0341	0.3408
1928	0.4361	0.0322	0.4039
1929	-0.0842	0.0347	-0.1189
1930	-0.2490	0.0332	-0.2822
1931	-0.4334	0.0333	-0.4667
1932	-0.0819	0.0369	-0.1188
1933	0.5399	0.0312	0.5087
1934	-0.0144	0.0318	-0.0462
1935	0.4767	0.0281	0.4486
1936	0.3392	0.0277	0.3115
1937	-0.3503	0.0266	-0.3769
1938	0.3112	0.0264	0.2848
1939	-0.0041	0.0240	-0.0281
1940	-0.0978	0.0223	-0.1201
1941	-0.1159	0.0194	-0.1353
1942	0.2034	0.0246	0.1788
1943	0.2590	0.0244	0.2346
1944	0.1975	0.0246	0.1729
1945	0.3644	0.0234	0.3410
1946	-0.0807	0.0204	-0.1011
1947	0.0571	0.0213	0.0358
1948	0.0550	0.0240	0.0310
1949	0.1879	0.0225	0.1654
1950	0.3171	0.0212	0.2959
1951	0.2402	0.0238	0.2164
1952	0.1837	0.0266	0.1571
1953	-0.0099	0.0284	-0.0383
1954	0.5262	0.0279	0.4983
1955	0.3156	0.0275	0.2881
1956	0.0656	0.0299	0.0357
1957	-0.1078	0.0344	-0.1422
1958	0.4336	0.0327	0.4009
1959	0.1196	0.0401	0.0795
1960	0.0047	0.0426	-0.0379
1961	0.2689	0.0383	0.2306
1962	-0.0873	0.0400	-0.1273
1963	0.2280	0.0389	0.1891
1964	0.1648	0.0415	0.1233
1965	0.1245	0.0419	0.0826
1966	-0.1006	0.0449	-0.1455
1967	0.2398	0.0459	0.1939
1968	0.1106	0.0550	0.0556
1969	-0.0850	0.0595	-0.1445
1970	0.0386	0.0674	-0.0288
1971	0.1430	0.0632	0.0798
1972	0.1900	0.0587	0.1313
1973	-0.1469	0.0651	-0.2120
1974	-0.2647	0.0727	-0.3374
1975	0.3723	0.0799	0.2924
1976	0.2393	0.0789	0.1604
1977	-0.0716	0.0714	-0.1430
1978	0.0657	0.0790	-0.0133
1979	0.1861	0.0886	0.0975
1980	0.3250	0.0997	0.2253
1981	-0.0492	0.1155	-0.1647
1982	0.2155	0.1350	0.0805
1983	0.2256	0.1038	0.1218
1984	0.0627	0.1174	-0.0547
1985	0.3173	0.1125	0.2048
1986	0.1867	0.0898	0.0969
1987	0.0525	0.0792	-0.0267
1988	0.1661	0.0897	0.0764
1989	0.3169	0.0881	0.2288
1990	-0.0310	0.0819	-0.1129
1991	0.3047	0.0822	0.2225
1992	0.0762	0.0726	0.0036
1993	0.1008	0.0717	0.0291
1994	0.0132	0.0659	-0.0527
1995	0.3758	0.0760	0.2998
1996	0.2296	0.0618	0.1678
1997	0.3336	0.0664	0.2672
1998	0.2858	0.0583	0.2275
1999	0.2104	0.0557	0.1547
2000	-0.0910	0.0650	-0.1560
2001	-0.1189	0.0553	-0.1742
2002	-0.2210	0.0559	-0.2769
2003	0.2868	0.0480	0.2388
2004	0.1088	0.0502	0.0586
2005	0.0491	0.0469	0.0022
2006	0.1579	0.0468	0.1111
2007	0.0549	0.0486	0.0063
2008	-0.3700	0.0445	-0.4145
2009	0.2646	0.0347	0.2299
2010	0.1506	0.0425	0.1081
2011	0.0211	0.0382	-0.0171
2012	0.1600	0.0247	0.1353
2013	0.3239	0.0290	0.2949
2014	0.1369	0.0341	0.1028
2015	0.0138	0.0247	-0.0109
2016	0.1196	0.0230	0.0966
2017	0.2183	0.0267	0.1916
2018	-0.0438	0.0282	-0.0720
2019	0.3149	0.0255	0.2894
2020	0.1840	0.0153	0.1687
2021	0.2871	0.0173	0.2698
2022	-0.1811	0.0261	-0.2072
Average	0.1202	0.0485	0.0717
Std. Dev.	0.1978	0.0264	0.1989

Source: Kroll, 2023 SBBI, Appendix A-1, A-7

MRP

Bin	*Frequency*	*Cumulative %*
-50.00%	0	0.0%
-47.50%	0	0.0%
-45.00%	1	1.0%
-42.50%	0	1.0%
-40.00%	1	2.1%
-37.50%	1	3.1%
-35.00%	0	3.1%
-32.50%	1	4.1%
-30.00%	0	4.1%
-27.50%	2	6.2%
-25.00%	0	6.2%
-22.50%	0	6.2%
-20.00%	2	8.2%
-17.50%	0	8.2%
-15.00%	3	11.3%
-12.50%	6	17.5%
-10.00%	5	22.7%
-7.50%	0	22.7%
-5.00%	3	25.8%
-2.50%	6	32.0%
0.00%	3	35.1%
2.50%	3	38.1%
5.00%	4	42.3%
7.50%	2	44.3%
10.00%	9	53.6%
12.50%	5	58.8%
15.00%	2	60.8%
17.50%	7	68.0%
20.00%	4	72.2%
22.50%	3	75.3%
25.00%	7	82.5%
27.50%	2	84.5%
30.00%	7	91.8%
32.50%	1	92.8%
35.00%	2	94.8%
37.50%	0	94.8%
40.00%	0	94.8%
42.50%	2	96.9%
45.00%	1	97.9%
47.50%	0	97.9%
50.00%	1	99.0%
51.00%	1	100.0%
Count:	97	

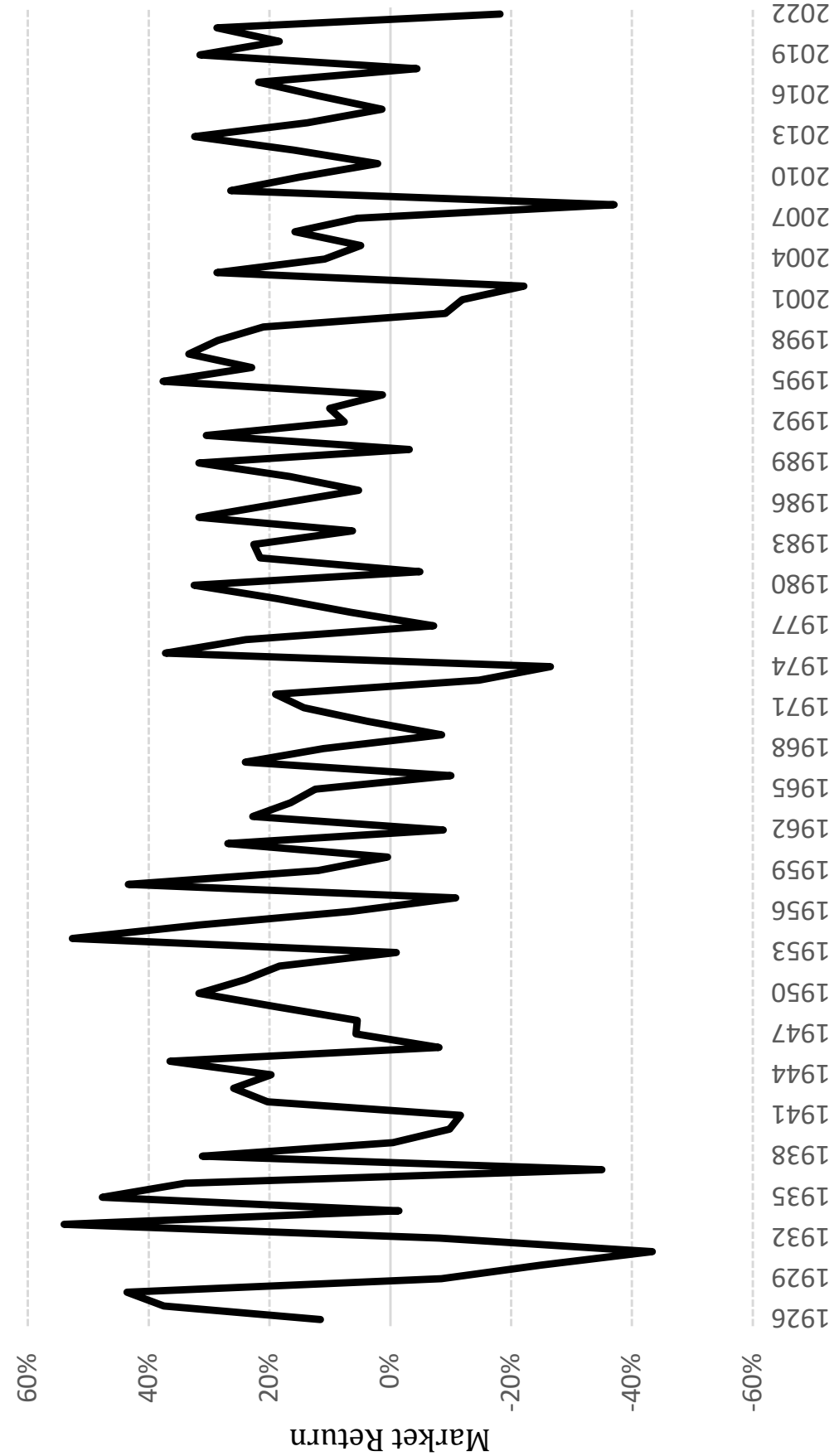
Market Returns

Bin	*Frequency*	*Cumulative %*
-50.00%	0	0.0%
-47.50%	0	0.0%
-45.00%	0	0.0%
-42.50%	1	1.0%
-40.00%	0	1.0%
-37.50%	0	1.0%
-35.00%	2	3.1%
-32.50%	0	3.1%
-30.00%	0	3.1%
-27.50%	0	3.1%
-25.00%	1	4.1%
-22.50%	1	5.2%
-20.00%	1	6.2%
-17.50%	1	7.2%
-15.00%	0	7.2%
-12.50%	1	8.2%
-10.00%	4	12.4%
-7.50%	7	19.6%
-5.00%	1	20.6%
-2.50%	3	23.7%
0.00%	3	26.8%
2.50%	4	30.9%
5.00%	2	33.0%
7.50%	7	40.2%
10.00%	1	41.2%
12.50%	7	48.5%
15.00%	2	50.5%
17.50%	5	55.7%
20.00%	7	62.9%
22.50%	4	67.0%
25.00%	6	73.2%
27.50%	3	76.3%
30.00%	3	79.4%
32.50%	9	88.7%
35.00%	2	90.7%
37.50%	3	93.8%
40.00%	1	94.8%
42.50%	0	94.8%
45.00%	2	96.9%
47.50%	0	96.9%
50.00%	1	97.9%
52.50%	0	97.9%
55.00%	2	100.0%
57.50%	0	100.0%
60.00%	0	100.0%
62.50%	0	100.0%
	97	

MRP from Direct	Rank
9.98%	53.50%

Average Return from Direct	Rank
13.94%	49.30%

Large Company Stocks Total Returns 1926-2022



Source: Kroll, SBBI 2023 Yearbook: Stocks, Bonds, Bills, and Inflation 1926 - 2022, Appendix A

Confluence Rivers (MO) Utility Operating Company, Inc.
Correlation of GDP and Large Company Stocks Total Returns

Correlation
0.14

SUMMARY OUTPUT - GDP (x) Large Capitalization Stocks Total Returns (y)

Regression Statistics	
Multiple R	0.137
R Square	0.019
Adjusted R Square	0.008
Standard Error	0.196
Observations	93

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	1	0.066	0.066	1.733	0.191
Residual	91	3.480	0.038		
Total	92	3.547			

	Coefficients	*andard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.098	0.025	3.995	0.000	0.049	0.147
GDP	0.557	0.423	1.316	0.191	-0.283	1.397

Sources: Kroll-2023, U.S. Bureau of Economic Analysis, Bloomberg Professional

Confluence Rivers (MO) Utility Operating Company, Inc.
S&P Utilties Index Companies Regulated Net Operating Income and Assets

S&P Utilties Index Companies	[1] Regulated NOI (1)	[2] Regulated Assets (1)	[3] Market Capitalization (2)	[4] Weight (3)	[5] Weighted NOI (4)	[6] Weighted Assets (5)
Ameren Corp	100.26%	91.90%	$ 21,062,371,720	2.17%	2.18%	1.99%
American Electric Power Co Inc	97.44%	88.56%	$ 45,178,894,570	4.65%	4.53%	4.12%
AES Corp/The	45.03%	28.19%	$ 17,473,143,290	1.80%	0.81%	0.51%
Atmos Energy Corp	100.00%	100.00%	$ 14,905,483,863	1.54%	1.54%	1.54%
American Water Works Co Inc	93.22%	90.11%	$ 26,426,863,207	2.72%	2.54%	2.45%
Constellation Energy Corp	0.00%	0.00%	$ 30,882,808,604	3.18%	0.00%	0.00%
CMS Energy Corp	95.02%	94.98%	$ 16,558,853,894	1.71%	1.62%	1.62%
CenterPoint Energy Inc	89.29%	96.16%	$ 18,008,061,136	1.85%	1.66%	1.78%
Dominion Energy Inc	206.09%	83.82%	$ 58,250,220,706	6.00%	12.37%	5.03%
DTE Energy Co	94.57%	84.57%	$ 21,720,401,046	2.24%	2.12%	1.89%
Duke Energy Corp	99.34%	94.63%	$ 71,748,600,000	7.39%	7.34%	6.99%
Consolidated Edison Inc	90.28%	84.02%	$ 31,189,040,285	3.21%	2.90%	2.70%
Edison International	102.41%	99.70%	$ 22,901,176,379	2.36%	2.42%	2.35%
Eversource Energy	94.92%	66.18%	$ 26,426,696,144	2.72%	2.58%	1.80%
Entergy Corp	110.28%	98.46%	$ 21,794,203,984	2.24%	2.48%	2.21%
Evergy Inc	100%	100%	$ 14,028,007,012	1.44%	1.44%	1.44%
Exelon Corp	99.33%	93.92%	$ 38,271,903,788	3.94%	3.92%	3.70%
FirstEnergy Corp	136.38%	98.86%	$ 21,560,812,983	2.22%	3.03%	2.20%
Alliant Energy Corp	97.20%	90.27%	$ 13,090,821,523	1.35%	1.31%	1.22%
NextEra Energy Inc	116.65%	54.46%	$ 152,270,386,683	15.68%	18.30%	8.54%
NiSource Inc	100.98%	93.43%	$ 10,428,932,544	1.07%	1.08%	1.00%
NRG Energy Inc	0.00%	0.00%	$ 10,440,533,105	1.08%	0.00%	0.00%
PG&E Corp	104.10%	99.78%	$ 29,676,362,269	3.06%	3.18%	3.05%
Public Service Enterprise Group Inc	120.07%	82.30%	$ 27,971,088,106	2.88%	3.46%	2.37%
Pinnacle West Capital Corp	100.00%	100.00%	$ 7,597,661,835	0.78%	0.78%	0.78%
PPL Corp	100.00%	93.06%	$ 19,501,534,531	2.01%	2.01%	1.87%
Southern Co/The	91.45%	88.44%	$ 69,574,115,719	7.17%	6.55%	6.34%
Sempra Energy	91.94%	80.95%	$ 47,442,001,361	4.89%	4.49%	3.96%
WEC Energy Group Inc	80.44%	76.54%	$ 28,808,635,716	2.97%	2.39%	2.27%
Xcel Energy Inc	98.35%	84.71%	$ 35,631,349,575	3.67%	3.61%	3.11%
Average	95.17%	81.27%			102.63%	78.85%

Notes:

(1) Source: Company 2022 10-K Forms
(2) Source: Bloomberg Professional Services
(3) Weights based on the total Market Capitalization of the S&P Utilties Index Companies
(4) Col. [1] x Col. [4]
(5) Col. [2] x Col. [4]