COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF	**)**	
KENTUCKY UTILITIES COMPANY FOR AN	**)**	**CASE NO. 2025-00113**
ADJUSTMENT OF ITS ELECTRIC RATES	**)**	
AND APPROVAL OF CERTAIN	**)**	
REGULATORY AND ACCOUNTING	**)**	
TREATMENTS	**)**	

In the Matter of:

ELECTRONIC APPLICATION OF	**)**	
LOUISVILLE GAS AND ELECTRIC	**)**	**CASE NO. 2025-00114**
COMPANY FOR AN ADJUSTMENT OF ITS	**)**	
ELECTRIC AND GAS RATES, AND	**)**	
APPROVAL OF CERTAIN REGULATORY	**)**	
AND ACCOUNTING TREATMENTS	**)**	

REBUTTAL TESTIMONY OF DYLAN W. D'ASCENDIS

RATE OF RETURN

September 30, 2025

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I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dylan W. D'Ascendis. My business address is 1820 Chapel Avenue W., Suite 300, Cherry Hill, NJ 08003.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am a Partner at ScottMadden, Inc.

Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS TESTIMONY?

A. I am submitting this rebuttal testimony (referred to throughout as my "Rebuttal Testimony") before the Kentucky Public Service Commission ("Commission") on behalf of the electric and natural gas operations of Louisville Gas and Electric Company ("LGE") and the electric operations of Kentucky Utilities Company ("KU" or the "Companies").

Q. ARE YOU THE SAME DYLAN W. D'ASCENDIS THAT SUBMITTED DIRECT TESTIMONY IN THESE PROCEEDINGS?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THESE PROCEEDINGS?

A. The purpose of my testimony is two-fold. First, I update the analyses in my Direct Testimony to reflect current data. Second, I respond to the Direct Testimonies of Richard A. Baudino on behalf of the Office of the Attorney General of the Commonwealth of Kentucky and Kentucky Industrial Utility Customers ("OAG/KIUC"), Michael P. Gorman on behalf of the United States Department of Defense and all other Federal Executive Agencies ("DOD/FEA"), and Lisa V. Perry on behalf of Walmart Inc. ("Walmart", collectively the "Opposing ROE Witnesses"), as it relates to the Companies' return on equity ("ROE") and capital structure on its Kentucky jurisdictional rate base.

Q. HAVE YOU PREPARED EXHIBITS IN SUPPORT OF YOUR REBUTTAL TESTIMONY?

A. Yes, I have. I prepared Rebuttal Exhibits DWD-1 through DWD-18, which were prepared by me or under my direct supervision.

II. SUMMARY AND OVERVIEW

Q. PLEASE SUMMARIZE THE CONCLUSIONS IN YOUR REBUTTAL TESTIMONY.

A. Due to the passage of time since my Direct Testimony analysis (which included data as of February 28, 2025), I have updated my analysis using data as of September 2, 2025. Based on these updated analyses, the reasonable range of ROEs attributable to LGE's natural gas operations is from 10.41% to 11.05% (unadjusted) and from 10.71% to 11.35% (adjusted). The unadjusted range attributable to LGE and KU's electric operations is 10.13% to 10.89% and the adjusted ranges for LGE and KU's electric operations are from 10.31% to 11.07% and 10.26% to 11.02%, respectively. Based on my updated results, my initial ROE recommendation of 10.95% remains reasonable.

My Rebuttal Testimony also responds to substantive recommendations offered by the Opposing ROE Witnesses in their direct testimonies. As it relates to his specific analytical models, I disagree with certain inputs and the application of Mr. Baudino's Discounted Cash Flow ("DCF") model and Capital Asset Pricing Model ("CAPM"). I also have concerns with Mr. Gorman's use of the multi-stage DCF and sustainable growth rate in his DCF analysis, and his application of the Risk Premium Model ("RPM") and CAPM. Messrs. Baudino and Gorman both fail to reflect Company-specific factors, such as size and flotation costs. Ms. Perry does not provide a recommended ROE. However, her

review of authorized returns is simplistic and does not reflect the range of authorized ROEs or changes in market data since those returns were authorized.

In addition, making reasonable corrections to the analytical models proffered by Messrs. Baudino and Gorman produces results that overlap with my recommended range and reflect a more reasonable estimate of the Companies' ROE. For example, relying solely on Messrs. Baudino and Gorman's constant growth DCF results using analyst earnings per share ("EPS") growth rates with no other corrections produces a range of results from 10.08% to 11.45%.[1] Making reasonable corrections to the Opposing ROE Witnesses other analytical models similarly produces results that illustrate the inadequacy of their recommended ROEs.

Q. HOW IS THE REMAINDER OF YOUR REBUTTAL TESTIMONY ORGANIZED?

A. The remainder of my Rebuttal Testimony is organized as follows:

- Section III – Provides my updated analyses;
- Section IV – Provides a response to the Opposing ROE Witnesses' testimony as it relates to authorized returns;
- Section V – Contains my response to OAG/KIUC Witness Baudino;
- Section VI – Contains my response to DOD/FEA Witness Gorman;
- Section VII – Contains my response to Walmart Witness Perry;
- Section VIII – Presents my conclusions.

[1] The average of Mr. Baudino's DCF results using EPS growth rates for his electric proxy group is 10.08% to 10.20% (Exhibit RAB-4). The average of Mr. Baudino's DCF results using EPS growth rates for his natural gas proxy group is 10.91% to 11.01% (Exhibit RAB-5). The constant growth DCF results based on Mr. Gorman's proxy groups range from 10.41% to 11.45% (Exhibit MPG-5).

III. UPDATED ANALYSIS

Q. DID YOU UPDATE YOUR NATURAL GAS AND ELECTRIC PROXY GROUPS USING 2024 FISCAL YEAR DATA?

A. Yes, I did. Updating for 2024 fiscal year data results in the inclusion of Chesapeake Utilities Corporation in my Natural Gas Proxy Group as it now meets all of my screening criteria and the exclusion of NorthWestern Corporation from my Electric Utility Proxy Group as it no longer meets my screening criteria based on the percentage of operating income and assets from regulated electric operations.

In addition, three companies were removed from my proxy groups, and one was added related to significant transactions. First, on July 29, 2025, Duke Energy Corporation ("Duke") announced its sale of Piedmont Natural Gas to Spire Inc. ("Spire") for $2.48 billion.[2] Second, on August 4, 2025, Duke announced a sale of up to 19.7% of Duke Energy Florida, LLC for up to $6 billion to Brookfield Super-Core Infrastructure Partners, L.P.[3] In addition, on May 18, 2025, TXNM Energy, Inc. ("TXNM") announced its acquisition by Blackstone, Inc.[4] As such, I have removed Duke and TXNM from my Electric Utility Proxy Group and Spire from my Natural Gas Utility Proxy Group.

FirstEnergy Corp. completed its sale of its transmission assets to Brookfield Corporation in March 2024.[5] Because enough time has passed since this event, such that the stock price is not affected by this carve-out, and it meets all my other screening criteria, I have included it in my Electric Utility Proxy Group.

2 *Duke Energy announces sale of its Tennessee Piedmont Natural Gas business to Spire for $2.48 billion*, PR Newswire, July 29, 2025.
3 Duke Energy Corporation, SEC Form 8-K, August 4, 2025.
4 *TXNM Energy Enters Agreement to be Acquired by Blackstone Infrastructure*, PR Newswire, May 19, 2025.
5 *FirstEnergy Announces $3.5 Billion Equity Capital Agreement to Further Enhance Financial Position and Support Sustainable, Long-Term Growth*, PR Newswire, February 2, 2023.

My updated Natural Gas and Electric Utility Proxy Groups are provided in Tables 1 and 2, below.

Table 1: Natural Gas Utility Proxy Group Companies

Company	Ticker
Atmos Energy Corporation	ATO
Chesapeake Utilities Corporation	CPK
New Jersey Resources Corporation	NJR
NiSource Inc.	NI
Northwest Natural Holding Company	NWN
ONE Gas, Inc.	OGS
Southwest Gas Holdings, Inc.	SWX

Table 2: Electric Utility Proxy Group Companies

Company	Ticker
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc	AEP
Edison International	EIX
Entergy Corporation	ETR
Evergy, Inc.	EVRG
FirstEnergy Corporation	FE
IDACORP, Inc.	IDA
OGE Energy Corporation	OGE
Pinnacle West Capital Corporation	PNW
Portland General Electric Co.	POR
Southern Company	SO
Xcel Energy, Inc.	XEL

Q. WHAT ARE THE RESULTS OF YOUR UPDATED ANALYSES?

A. I applied the same models as presented in my Direct Testimony using data as of September 2, 2025. My recommended ranges of ROEs applicable to the Companies are summarized on pages 1 and 2 of Rebuttal Exhibit DWD-1 and in Table 3, below.

Table 3: Summary of Common Equity Cost Rates

	Louisville Gas & Electric		Kentucky Utilities
	Gas Proxy Group	Electric Proxy Group	Electric Proxy Group
Discounted Cash Flow Model	10.41%	10.15%	10.15%
Risk Premium Model	10.57%	10.56%	10.56%
Capital Asset Pricing Model	10.47%	10.13%	10.13%
Market Models Applied to Comparable Risk, Non-Price Regulated Companies	11.05%	10.89%	10.89%
Indicated Range of Common Equity Cost Rates Before Adjustments for Company-Specific Risk	10.41% - 11.05%	10.13% - 10.89%	10.13% - 10.89%
Size Adjustment	0.15%	0.10%	0.05%
Credit Risk Adjustment	0.00%	-0.07%	-0.07%
Flotation Cost Adjustment	0.15%	0.15%	0.15%
Indicated Range of Common Equity Cost Rates after Adjustment	10.71% – 11.35%	10.31% – 11.07%	10.26% – 11.02%
Recommended Cost of Common Equity	10.95%	10.95%	10.95%

The indicated ranges of common equity cost rates applicable to the Natural Gas Utility Proxy Group and the Electric Utility Proxy Group are between 10.41% and 11.05% and 10.13% and 10.89%, respectively, before any Company-specific adjustments.[6] I then adjusted the indicated common equity cost rate model results to reflect the Companies' smaller relative size and respective bond ratings, as compared to the Natural Gas and Electric Utility Proxy Groups. I also adjusted the indicated ranges of common equity cost rates upward to reflect flotation costs. These adjustments resulted in a Company-specific indicated range of common equity cost rates between 10.71% and 11.35% based on the

[6] The indicated range of ROEs applicable to the Natural Gas Utility Proxy Group excluding the Predictive Risk Premium Model ("PRPM") before adjustments is 10.41% to 11.04%. The indicated range of ROEs applicable to the Electric Utility Proxy Group excluding the PRPM before adjustments is 10.11% to 10.88%.

Natural Gas Utility Proxy Group,[7] and 10.26% and 11.02% (KU)[8] and 10.31% and 11.07% (LGE)[9] based on the Electric Utility Proxy Group. Based on my updated analysis, I conclude my initial recommendation of 10.95% for the Companies remains reasonable.

IV. AUTHORIZED RETURNS

Q. PLEASE SUMMARIZE THE OPPOSING ROE WITNESSES' USE OF AUTHORIZED ROES IN THEIR TESTIMONIES.

A. Each of the Opposing ROE Witnesses review average authorized returns for natural gas and electric utilities to assess the Companies' requested ROE. Specifically, Mr. Baudino calculates the average authorized ROE in 2024 and the first six months of 2025.[10] Mr. Gorman presents average authorized returns on an annual basis from 2014 through July 25, 2025.[11] Lastly, Ms. Perry calculates the average authorized returns over the period 2023 through July 24, 2025.[12]

Q. DO YOU HAVE ANY INITIAL CONCERNS WITH HOW ANY OF THE OPPOSING ROE WITNESSES HAVE APPLIED THEIR ANALYSIS OF AUTHORIZED RETURNS?

A. Yes, I do. Mr. Baudino offers an inconsistent opinion on the use of authorized ROEs as benchmarks for the investor-required return. On page 42 of his direct testimony, he states he does "not recommend that the Commission base its allowed ROE in this case on average allowed ROEs in other states." However, in arguing against my recommendations, earlier on page 42 he claims that my recommended ROE is "an extreme outlier compared to recent commission-allowed ROEs." On pages 52 and 57, he then states that certain of my RPM

[7] 10.71% to 11.34% excluding the PRPM.
[8] 10.24% to 11.01% excluding the PRPM.
[9] 10.29% to 11.06% excluding the PRPM.
[10] Baudino Direct Testimony, at 13.
[11] Gorman Direct Testimony at, 6.
[12] Perry Direct Testimony, at 12 (KU), Perry Direct Testimony, at 12, 16-17 (LGE).

and CAPM results are out of line with authorized ROEs. While I agree with Mr. Baudino's position that allowed ROEs should not be a substitute for market analyses, his seemingly conflicting positions obscure that important fact.

Q. PLEASE DISCUSS THE APPLICABILITY OF HISTORICALLY AUTHORIZED ROES FOR COST OF CAPITAL PURPOSES.

A. While authorized ROEs may be reasonable benchmarks of acceptable ROEs, care must be exercised when evaluating their applicability in any given case, because they necessarily do not reflect the current cost of common equity. The reason why historical authorized returns do not reflect the investor-required return is because authorized ROEs are a lagging indicator of investor-required returns, i.e., authorized ROEs are based on market data presented in an evidentiary record, which spans a period before the decision, sometimes lasting over a year in some cases. Simply put, historical authorized returns do not completely reflect the investor-required return because the economic conditions in the past are not representative of economic conditions now.

A more useful way to use historical authorized ROEs for cost of capital purposes would be to determine whether a relationship between authorized ROEs (or equity risk premiums) and interest rates exists so one can determine an expectational ROE or equity risk premium ("ERP") given an interest rate. As discussed in my Direct Testimony, it is clear that an inverse relationship exists between ERPs and interest rates (i.e., as interest rates move, ERPs move in the opposite direction, but not to the extent of the interest rate move), which is confirmed in the work of Harris and Marston (2001) and Brigham, Dilip, Shome, and Vinson (1985).[13]

[13] D'Ascendis Direct Testimony, at 35.

The only useful data that can be discerned by historically allowed ROEs would be the relationship between those ROEs and prevailing interest rates at the time of the decision. For these reasons, the Commission should not rely on historically authorized ROEs in setting the ROE for the Companies in this case and instead focus on the market analyses put forth in my testimonies.

Q. DO YOU HAVE ANY OTHER OBSERVATIONS RELATED TO THE OPPOSING ROE WITNESSES' USE OF AUTHORIZED ROES?

A. Yes, I do. The Opposing ROE Witnesses' use of average annual data obscures variations in returns and does not address the number of cases nor the jurisdictions issuing orders within a given year. For example, one year may have fewer cases decided, and a relatively large portion of those cases decided by a single jurisdiction. As shown in Charts 1 and 2, below, if all individual authorized ROEs are charted, rather than annual averages, it is clear that Commissions authorize a range of ROEs and that those ROEs are not clustered around the average. The range of authorized returns for gas and electric utilities represents the opportunity cost of capital at that particular time and should not be minimized to just the measure of central tendency. As discussed above, since these returns were authorized in the past, they may not reflect current and expected data.

Chart 1: Natural Gas Authorized Returns (2020-2025)[14]

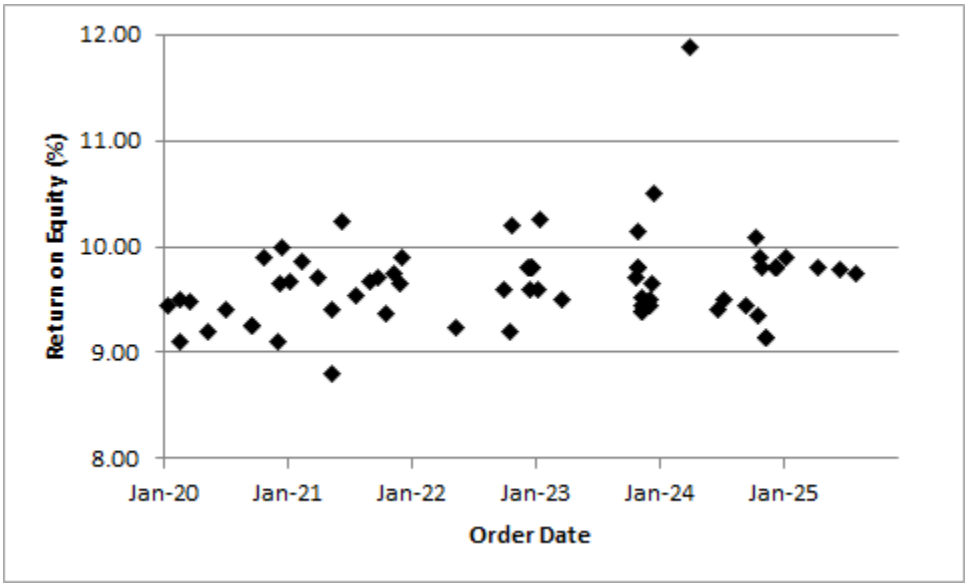
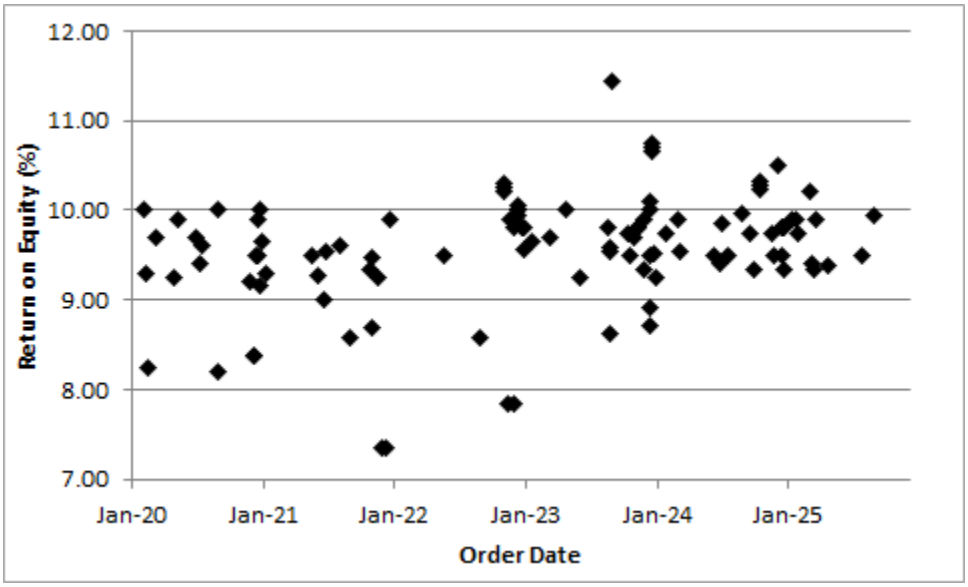


Chart 2: Electric Authorized Returns (2020-2025)[15]



[14] Source: Regulatory Research Associates. Excludes limited issue rate riders. Based on data through September 2, 2025.

[15] Source: Regulatory Research Associates. Excludes limited issue rate riders. Based on data through September 2, 2025.

V. RESPONSE TO OAG/KIUC WITNESS BAUDINO

Q. PLEASE SUMMARIZE MR. BAUDINO'S RECOMMENDATION REGARDING THE COMPANIES' ROE.

A. Mr. Baudino recommends an ROE of 9.60%, within a range of 9.00% to 10.00%.[16] Mr. Baudino sets his recommended range by reference to: (1) his average CAPM results (9.00%), and (3) his DCF model results (10.00%).[17] Mr. Baudino's 9.60% recommendation is "slightly above the midpoint of [his] range."[18]

Q. WHAT ARE THE AREAS OF DISAGREEMENT BETWEEN YOU AND MR. BAUDINO?

A. The principal areas in which I disagree with Mr. Baudino include: (1) his assessment of capital market conditions; (2) specific inputs to his DCF model; (3) specific assumptions and inputs to his CAPM; and (4) his decision to not reflect any Company-specific risks in his recommendation.

A. Assessment of Capital Markets Conditions

Q. PLEASE SUMMARIZE MR. BAUDINO'S ASSESSMENT OF CURRENT CAPITAL MARKET CONDITIONS.

A. Mr. Baudino reviews several factors that influence ROEs, including current levels of interest rates and inflation, equity market volatility, economic growth, and unemployment.[19] I agree with the majority of his observations, including his comment that the cost of equity for regulated utilities is interest rate sensitive, and that the cost of equity generally (but not always) moves in the same direction as interest rates.

[16] Baudino Direct Testimony, at 34.
[17] Baudino Direct Testimony, at 34.
[18] Baudino Direct Testimony, at 34.
[19] Baudino Direct Testimony, at 5.

Q. DOES MR. BAUDINO'S RECOMMENDED ROE REFLECT CHANGES IN MARKET CONDITIONS SINCE THE COMPANY'S MOST RECENT RATE CASE?

A. No. In Case Nos. 2020-00349 and 2020-00350, the Companies were awarded a 9.43% ROE. During the pendency of the Companies' prior rate cases, the 30-year Government Bond averaged 2.09% and the A-rated Moody's Public Utility bond yield was 3.14%.[20] During the current cases, the 30-year Treasury and A-rated Public Utility Bond average yields are 4.90% and 5.86%, respectively.[21] Mr. Baudino's 9.60% ROE recommendation is only 17 basis points higher in the current case than in the Company's previous rate case despite long-term Treasury bond yields increasing by 281 basis points and A-rated Public Utility Bond yields increasing 272 basis points.

Q. CAN YOU QUANTIFY THE CHANGE IN THE ROE GIVEN THE CHANGE IN INTEREST RATES IN VIEW OF MR. BAUDINO'S STATEMENT THAT AUTHORIZED ROES AND INTEREST RATES TEND TO MOVE IN THE SAME DIRECTION?

A. Yes. To determine whether there is a relationship between interest rates and authorized ROEs, I performed two analyses: (1) a correlation analysis, and (2) a regression analysis between A-rated Public Utility Bonds and authorized ROEs for electric and natural gas utilities as published by Regulatory Research Associates. As shown on page 1 of Rebuttal Exhibit DWD-2, the correlation between A-rated bond yields and authorized ROEs was 0.93, which is a strong positive correlation (i.e., they move in the same direction). The extent of the relative movement between the two variables was derived by conducting a regression analysis of the data. Also as shown on Rebuttal Exhibit DWD-2, for every 100-

[20] Over the period November 25, 2020, through June 30, 2021.
[21] Over the period May 30, 2025, through September 2, 2025.

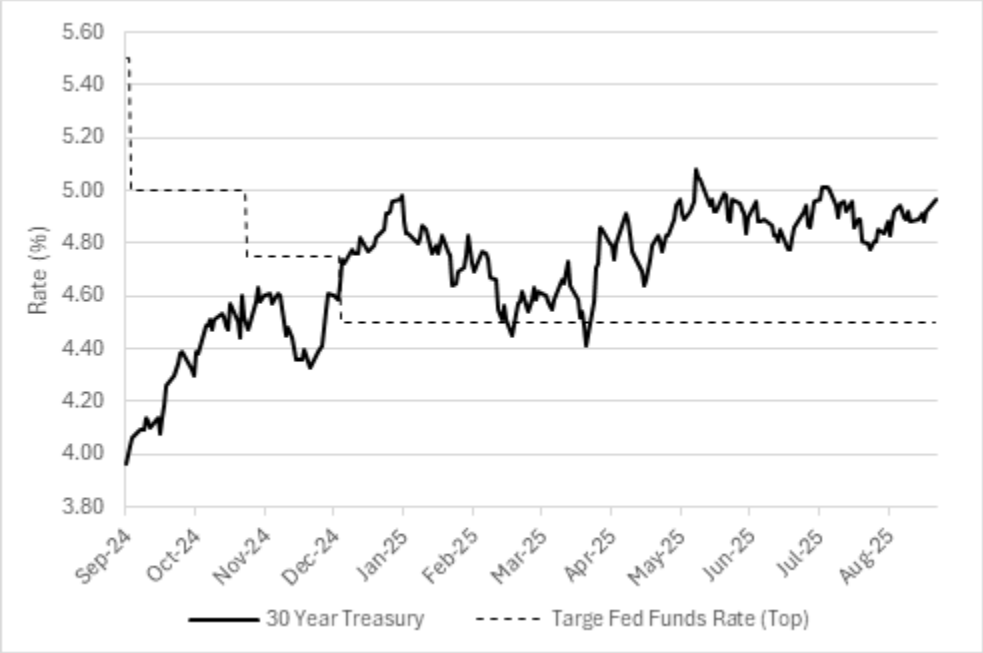
basis point move in A-rated Public Utility Bond yields, the expected authorized ROE moves approximately 52 basis points in the same direction. The recent 272-basis-point increase in A-rated Utility Bond yields from the most recent case indicates a 141-basis-point increase in the authorized ROE. Applying that 141-basis-point increase to the Company's' authorized ROE of 9.43% indicates an ROE of 10.84%. The implied ROE of 10.84% based on relative interest rate movements is only 11 basis points below my recommended ROE and shows Mr. Baudino's recommended ROE of 9.60% is inadequate. Further, as shown in Mr. Gorman's Exhibits MPG-12 and MPG-13, authorized returns for both natural gas and electric utilities averaged over 10.00% in prior years when interest rates were consistent with current yields.

Q. WILL FEDERAL RESERVE ACTIONS NECESSARILY REDUCE LONG-TERM TREASURY YIELDS?[22]

A. Not necessarily. As mentioned by Mr. Baudino, long-term interest rates are set more by market forces than Federal Reserve ("Fed") action.[23] As shown in Chart 3 below, the Fed has cut the Fed Funds Rate by 100 basis points since September 17, 2024, and since that time, 30-year Treasury yields increased from 3.96% to approximately 4.97%.

[22] Baudino Direct Testimony, at 7.
[23] Baudino Direct Testimony, at 7.

Chart 3: Federal Funds Rate and 30-Year Treasury Yield Relationship[24]



During this period, the correlation between the Fed Funds Rate and 30-year Treasury bonds was -0.80, indicating a strong negative relationship. As noted above, long-term bond yields have been higher and for longer than any time in the past decade. As evidenced by Chart 3 above, Fed actions to cut the Fed Funds Rate has not reduced long-term bond yields.

Q. DO YOU AGREE WITH MR. BAUDINO'S ASSESSMENT OF THE CURRENT STATE OF INFLATION IN THE ECONOMY AND EXPECTATIONS FOR INFLATION IN THE FUTURE?

A. I generally agree that inflation has declined substantially from Mr. Baudino's noted peak in the Consumer Price Index ("CPI") in June 2022 at 9.1%,[25] however the Federal Reserve has not come close to achieving its 2.0% inflation goal. As Mr. Baudino notes,

[24] Source of Information: Federal Reserve Data Download Program; and https://www.newyorkfed.org/markets/reference-rates/effr

[25] Baudino Direct Testimony, at 10.

inflation in July 2025 was 2.7% and is expected to remain at elevated levels in the future.[26]

Q. PLEASE SUMMARIZE THIS SECTION.

A. Despite correctly observing interest rates and authorized ROEs move in the same direction, Mr. Baudino does not fully reflect increasing interest rates since the Company's most recent rate case in his recommendation. This is reinforced by the fact that when interest rates were last at these levels, authorized ROEs on average exceeded 10.00%. Inflation is higher than the Fed target of 2% and is expected to remain so, which increases return requirements. Given the above, Mr. Baudino's 9.60% recommendation is significantly understated.

B. <u>Discounted Cash Flow Model</u>

Q. PLEASE BRIEFLY DESCRIBE MR. BAUDINO'S CONSTANT GROWTH DCF ANALYSIS AND RESULTS.

A. Mr. Baudino calculates average dividend yields of 3.52% and 3.55% for his electric and natural gas proxy groups, respectively, by dividing each proxy company's annualized dividend as reported by *Value Line* by its monthly stock price for the six-month period ending July 31, 2025.[27] For the expected growth rate, Mr. Baudino relies on EPS growth rate projections from *Value Line*, Zacks, and S&P Capital IQ, as well as dividend per share ("DPS") growth rate projections from *Value Line*.[28] Mr. Baudino then calculates his DCF results based on the mean and median growth rate of the four sources noted above. Mr. Baudino refers to the DCF results produced using mean growth rates as "Method 1", and DCF results produced using median growth rates as "Method 2". The mean DCF results

[26] Baudino Direct Testimony, at 10.
[27] Baudino Direct Testimony, at 17.
[28] Baudino Direct Testimony, at 19.

of his Method 1 and 2 were 9.70% and 9.94%, respectively for his electric proxy group and 10.17% and 9.86%, respectively for his natural gas proxy group.[29]

Q. DO YOU HAVE ANY CONCERNS WITH MR. BAUDINO'S APPLICATION OF THE DCF MODEL?

A. Yes, I do. My concerns are as follows: (1) Mr. Baudino's use of DPS growth rates; (2) his substitution of New Jersey Resources Corporation ("New Jersey Resources"), and Northwest Natural Holding Co.'s ("Northwest Natural") Zacks EPS growth rate with an S&P Capital IQ EPS growth rate; and (3) his use of outdated dividend data.[30]

Q. ARE DPS GROWTH RATES APPROPRIATE INPUTS TO THE DCF MODEL?

A. No, they are not. First, EPS growth rates are a superior measure of growth for use in the DCF model because EPS growth enables both dividend *and* book value growth. Under the strict assumptions of the constant growth DCF model, earnings, dividends, book value, and stock prices all grow at the same, constant rate in perpetuity.

Simply, earnings are the fundamental driver of both book value *and* dividend growth. Book value increases with the amount of earnings not distributed as dividends (that is, retained earnings), and the price at which new equity is issued is also a function of EPS and the then-current price-to-earnings ("P/E") ratio.[31] Similarly, the ability to pay dividends depends fundamentally on expected earnings. Because a company's dividend policy contemplates additional factors, including the disproportionately negative effect on prices resulting from dividend cuts, as opposed to dividend increases, in the short-run, dividend growth may be disconnected from earnings growth. In the long run, however, dividends cannot be increased without earnings growth.

[29] Baudino Direct Testimony, at 20-21.
[30] Baudino Direct Testimony, at 20.
[31] Jing Liu, Doron Nissim, and Jacob Thomas, Is Cash Flow King in Valuations?, Financial Analysts Journal, Volume 63, Number 2, 2007.

Q. WHY ARE EPS GROWTH RATES MORE APPROPRIATE IN THE DCF MODEL?

A. As noted above and discussed in my Direct Testimony, over the long run, there can be no growth in DPS without growth in EPS.[32] Earnings expectations have a more significant, but not sole, influence on market prices than dividend expectations. Thus, the use of earnings growth rates in a DCF analysis provides a better match between investors' market appreciation expectations implicit in market prices and the growth rate component of the DCF. Consequently, earnings expectations have a significant influence on market prices which affect market price appreciation, and hence, the "growth" experienced by investors. This should be evident by listening to financial news reports on radio, TV, or reading newspapers. In fact, Morin 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 [growth]. The accuracy of these forecasts in the sense of whether they turn out to be correct is not at issue here, as long as they reflect widely held expectations. As long as the forecasts are typical and/or influential in that they are consistent with current stock price levels, they are relevant. The use of analysts' forecasts in the DCF model is sometimes denounced on the grounds that it is difficult to forecast earnings and dividends for only one year, let alone for longer time periods. This objection is unfounded, however, because it is present investor expectations that are being priced; it is the consensus forecast that is embedded in price and therefore in required return, and not the future as it will turn out to be.
>
> * * *
>
> Published studies in the academic literature demonstrate that growth forecasts made by security analysts represent an appropriate source of DCF growth rates, are reasonable indicators of investor expectations and are more accurate than forecasts based on historical growth. These studies

[32] D'Ascendis Direct Testimony, at 21.

show that investors rely on analysts' forecasts to a greater extent than on historic data.[33]

In addition, studies performed by Cragg and Malkiel demonstrate that analysts' forecasts are superior to historical growth rate extrapolations. They state:

> Efficient market hypotheses suggest that valuation should reflect the information available to investors. Insofar as analysts' forecasts are more precise than other types we should therefore expect their differences from other measures to be reflected in the market. It is therefore noteworthy that our regression results do support the hypothesis that analysts' forecasts are needed even when calculated growth rates are available. As we noted when we described the data, security analysts do not use simple mechanical methods to obtain their evaluations of companies. The growth-rate figures we obtained were distilled from careful examination of all aspects of the companies' records, evaluation of contingencies to which they might be subject, and whatever information about their prospects the analysts could glean from the companies themselves of from other sources. It is therefore notable that the results of their efforts are found to be so much more relevant to the valuation than the various simpler and more "objective" alternatives that we tried.[34]

In addition, Vander Weide and Carleton conclude:

> . . . our studies affirm the superiority of analysts' forecasts over simple historical growth extrapolations in the stock price formation process. Indirectly, this finding lends support to the use of valuation models whose input includes expected growth rates.[35]

Burton G. Malkiel, the Chemical Bank Chairman's Professor of Economics at Princeton University and author of the widely read national bestseller book on investing entitled, A Random Walk Down Wall Street (2011), also expressed support for projected EPS growth rates in testimony before the Public Service Commission of South Carolina in November 2002. Malkiel affirmed his belief in the superiority of analysts' earnings forecasts when he testified:

[33] Roger A. Morin, Modern Regulatory Finance, PUR Books, 2021, at 371-373. ("Morin") [Clarification added]

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

[35] James H. Vander Weide and Willard T. Carleton, *Investor Growth Expectations: Analysts vs. History* (The Journal of Portfolio Management, Spring 1988) 78-82.

> With all the publicity given to tainted analysts' forecasts and investigations instituted by the New York Attorney General, the National Association of Securities Dealers, and the Securities & Exchange Commission, I believe the upward bias that existed in the late 1990s has indeed diminished. In summary, I believe that current analysts' forecasts are more reliable than they were during the late 1990s. *Therefore, analysts' forecasts remain the proper tool to use in performing a Gordon Model DCF analysis.*[36]

Q. IN REVIEWING THE FINANCIAL LITERATURE, DID YOU DISCOVER ANY ARTICLES THAT SUPPORT THE USE OF PROJECTED DPS GROWTH RATES FOR USE IN A DCF MODEL?

A. No, I did not.

Q. LIKEWISE, ARE YOU AWARE OF ANY SOURCES OF DATA WHICH PROVIDE PROJECTED DPS GROWTH RATES TO INVESTORS?

A. *Value Line* is the only source of which I am aware that publishes projected DPS growth rates. If investors indeed valued projected DPS growth rates, there would be a market for that data. As they are not relied on by investors to determine their required returns on investments, there is not. Conversely, projected EPS growth rates are widely available to investors through many sources.[37]

Q. HAVE YOU PERFORMED ANY ANALYSES TO DETERMINE WHICH MEASURES OF GROWTH ARE STATISTICALLY RELATED TO THE PROXY COMPANIES' STOCK VALUATION LEVELS?

A. Yes, I have. My analysis is based on the methodological approach used by Carleton and Vander Weide, who compared the predictive capability of historical growth estimates and analysts' forecasts on the valuation levels of 65 utility companies.[38] I structured the

36 Malkiel rebuttal testimony, South Carolina Electric and Gas Co., pp. 16-17, Docket No. 2002-223-E) (italics added for emphasis).

37 For example, Mr. Baudino, and I both use projected EPS growth rates from *Value Line*, Zacks, and S&P Capital IQ.

38 James H. Vander Weide and Willard T. Carleton, *Investor Growth Expectations: Analysts vs History*, The Journal of Portfolio Management (Spring 1988).

analysis to understand whether projected earnings or dividend growth rates best explain utility stock valuations. In particular, my analysis examined the statistical relationship between the P/E ratios of electric and natural gas utilities as classified by *Value Line*, and the projected EPS and DPS growth rates as reported by *Value Line*. To determine which, if any, of those growth rates are statistically related to utility stock valuations, I performed regression analyses in which the projected growth rates were explanatory variables and the median P/E ratio was the dependent variable. The results of those analyses are presented in Rebuttal Exhibit DWD-3.

In that analysis, I performed two separate regressions with the P/E as the dependent variable, and projected EPS and DPS as the independent variables. I then reviewed the T- and F-Statistics to determine whether the variables and equations were statistically significant.

Q. WHAT DID THOSE ANALYSES REVEAL?

A. As shown in Rebuttal Exhibit DWD-3, the only growth rate that was statistically significant and positively related to the median P/E ratio was the projected EPS growth rate. Because projected EPS growth is the only growth rate that is both statistically and positively related to utility valuation, projected earnings is the proper measure of growth in the constant growth DCF model.

Q. WHAT IS YOUR CONCLUSION ON THE APPROPRIATE GROWTH RATE FOR USE IN THE DCF MODEL?

A. In view of the above, I recommend the Commission rely solely on projected EPS growth rates when determining the indicated ROE for the Companies using the DCF model.

Q. DO YOU HAVE ANY CONCERNS WITH MR. BAUDINO'S EPS GROWTH RATES?

A. Although I generally agree with the sources of EPS growth rates on which Mr. Baudino relies, it appears that he has substituted S&P Capital IQ growth rates for Zacks growth rates for two companies in his natural gas proxy group (New Jersey Resources and Northwest Natural) where Zacks reports the growth rates as not-available ("NA"). Mr. Baudino has not explained why doing so is appropriate. In addition, while both providers may publish a consensus growth rate, they clearly do not aggregate estimates from the same analysts, or their published consensus growth rates would be identical. Mr. Baudino offers no analytical or theoretical support for his substitution, and instead should have marked the missing Zacks growth rates as an NA.

Q. PLEASE COMMENT ON MR. BAUDINO'S DIVIDEND DATA.

A. Mr. Baudino relies on the most recently paid dividend for each company as reported in *Value Line's* Summary and Index for his for his dividend data.[39] In reviewing the data, I discovered that the dividends reported by *Value Line* are not the most recent ex- dividend, the dividend that a holder of record as of July 31, 2025, would be entitled to. For example, Duke dividend reported by *Value Line* was $1.045. Any stockholders before the ex-dividend date of July 15, 2025, would receive a dividend of $1.065. Mr. Baudino acknowledges that an ROE analysis is a forward-looking process, and his DCF model necessarily assumes the applicable dividend is what investors would receive moving forward. That dividend is $1.065.

In addition, *Value Line* appears to report the incorrect dividend for Alliant Energy Corporation ("Alliant") of $0.48 for each of the first two quarters of 2025. Based on the

[39] Baudino Direct Testimony, at 17.

reported dividends from other sources, such as Bloomberg, Zacks, and S&P Capital IQ, the three most recently reported dividends for Alliant have been $0.5075.

Therefore, as discussed below, I have updated Mr. Baudino's DCF analysis to include the dividends available to investors at the time of his analysis.

Q. WHAT WOULD BE THE INDICATED RESULT OF MR. BAUDINO'S DCF MODEL IF HE RELIED SOLELY ON PROJECTED EPS GROWTH RATES, DIDN'T DOUBLE-COUNT S&P CAPITAL IQ GROWTH RATES FOR CERTAIN COMPANIES, AND USED THE CORRECT DIVIDENDS?

A. As shown on pages 1 and 2 of Rebuttal Exhibit DWD-4, Mr. Baudino's average Method 1 and 2 DCF model results would be 10.10% and 10.22%, respectively, for his electric proxy group and 11.09% and 10.91%, respectively, for his natural gas proxy group. In view of these corrected results, Mr. Baudino's indicated DCF cost rates of 9.70% and 9.94% for his electric proxy group, and 9.61% and 9.86% for his natural gas proxy group are understated.[40]

C. Capital Asset Pricing Model

Q. PLEASE DESCRIBE MR. BAUDINO'S CAPM ANALYSIS AND RESULTS.

A. Mr. Baudino performs eight CAPM calculations, each of which use his proxy group average *Value Line* and S&P Capital IQ betas of 0.70 (electric) and 0.77 (gas) and risk-free rate of 4.90%.[41] His eight market risk premiums ("MRP") use the following sources: (1) *Value Line* Summary and Index; (2) Kroll historical MRP using the arithmetic mean return on large stocks less the long-term average income return of long-term government bonds;

[40] Although I make several corrections to Mr. Baudino's DCF model, the main driver of the difference in his results and the corrected results is Mr. Baudino's use of projected DPS growth rates. Simply excluding the results based on projected DPS growth rates and making no other changes to Mr. Baudino's analysis produces a range of 10.08% to 10.20% for his electric proxy group and 10.91% to 11.01% for his natural gas proxy group.

[41] Baudino Exhibits RAB-6 and RAB-7.

(3) the Ibbotson and Chen "supply side" MRP; (4) the Ibbotson and Chen "supply side" MRP excluding pre-World War II data; (5) the Kroll "recommended" MRP; (6) a MRP estimate from KPMG Corporate Finance and Evaluations; (7) an implied MRP from the Damodaran website; and (8) IESE Business School Survey MRP. Indicated ROEs from Mr. Baudino's application of the CAPM range from 7.91% to 10.04%, averaging 8.89% for the electric proxy group and 8.22% to 10.56%, with an average of 9.29% for the natural gas proxy group.[42]

Q. DO YOU HAVE ANY CONCERNS WITH MR. BAUDINO'S APPLICATION OF THE CAPM?

A. Yes, I do. My concerns are as follows: (1) his calculation of his forward-looking MRP; (2) his calculation of the "supply side" MRP; (3) his time-adjusted historical MRP; (4) his considerations of the Kroll, KPMG, Damodaran, and IESE Business School Survey MRPs in his analysis; and (5) the lack of an ECAPM analysis.

Q. DO YOU GENERALLY AGREE WITH MR. BAUDINO'S *VALUE LINE* FORWARD-LOOKING MRP OF 5.97% AND HISTORICAL LONG-TERM ARITHMETIC MEAN MRP OF 7.31%?

A. Yes, I do. They are similar calculations to what I use in the calculation of my average MRP.

Q. IS MR. BAUDINO'S CALCULATION OF HIS FORWARD-LOOKING MRP CONSISTENT WITH OTHER PARTS OF HIS ANALYSIS?

A. No, it is not. Mr. Baudino's estimate of the *Value Line* expected market return is based solely on the August 1, 2025 *Value Line* Summary and Index report. In his DCF analysis, Mr. Baudino relies on the six-month average dividend yield.[43] If Mr. Baudino believes

[42] Baudino Direct Testimony, at 32-34.
[43] Baudino Direct Testimony, at 17.

that the six-month average dividend yield in his DCF analysis is appropriate, he should calculate his *Value Line* expected market return in a consistent manner. As shown on Rebuttal Exhibit DWD-5, doing so results in an expected market return of 13.07%. Subtracting Mr. Baudino's 4.90% estimate of the 30-year Treasury yield produces a forward-looking MRP of 8.17%.

Q. DO YOU AGREE WITH MR. BAUDINO'S SUPPLY SIDE MRP OF 6.26%?

A. No, I do not. I do not agree with the supply side MRP because the MRP mismatches a projected return on the market with a historical bond yield. A more correct way to derive that MRP would be to use the projected return and subtract an appropriate risk-free rate. On page 200 of Kroll's 2023 SBBI® Yearbook: Stocks, Bonds, Bills, and Inflation® ("SBBI - 2023"), the Ibbotson and Chen supply side model provides a calculation to convert a geometric mean return to an arithmetic mean return.[44] Converting the 9.37% geometric mean return[45] to an arithmetic mean return results in an arithmetic, forward-looking market return of 11.31%.[46] Subtracting the applicable risk-free rate of 4.90% results in a forward-looking MRP of 6.41%.

Q. DO YOU HAVE ANY ADDITIONAL COMMENTS ON THE SUPPLY SIDE MRP?

A. Yes, I do. The supply side MRP does not "remove" the effect of the price-to-earnings ("P/E") ratios in estimating the MRP, it develops an estimate absent "any change in investor predictions."[47] The resulting formula translates into a modified version of the market DCF. However, as noted above, the resulting equity return estimate needs to be adjusted to reflect an arithmetic return, consistent with the historical MRP calculation Mr. Baudino relies on.

44 SBBI – 2023, at 200.
45 Return statistics for 1926 through 2024 provided by Kroll.
46 The conversion of a geometric mean return to an arithmetic mean return is shown in SBBI - 2023, at 201; 11.31% = 9.37% + 19.69%^{2}/2. Return statistics for 1926-2024 provided by Kroll.
47 Roger G. Ibbotson and Peng Chen, *Long-Run Stock Returns: Participating in the Real Economy*, Financial Analysts Journal, January/February 2003, at p. 94.

While somewhat below the long-term arithmetic average annual return and the corrected *Value Line* approach, the 11.31% implied return is consistent with Mr. Baudino's historical approach.

Q. DO YOU AGREE WITH MR. BAUDINO'S TIME-ADJUSTED HISTORICAL MARKET RISK PREMIUM (SUPPLY SIDE LESS WORLD WAR II BIAS)?

A. No, I do not. Kroll's SBBI - 2023 makes it clear that the arbitrary selection of short historical periods is highly suspect and unlikely to be representative of long-term trends in market data. For example, SBBI - 2023 states:

> The estimate of the equity risk premium depends on the length of the data series studied. A proper estimate of the equity risk premium requires a data series long enough to give a reliable average without being unduly influences by very good and very poor short-term returns. When calculated using a long data series, the historical equity risk premium is relatively stable. Furthermore, because an average of the realized equity risk premium, is quite volatile when calculated using a short history, using a long series makes it less likely that the analyst can justify any number he or she wants. The magnitude of how shorter time periods can affect the result will be explored later in this Chapter.
>
> Some analysts estimate the expected equity risk premium using a shorter, more recent period on the basis that recent events are more likely to be repeated in the near future; furthermore, they believe that the 1920s, 1930s, and 1940s contain too many unusual events. This view is suspect because all periods contain unusual events. Some of the most unusual events of the last 100 years took place quite recently, including the inflation of the late 1970s and early 1980s, the October 1987 stock market crash, the collapse of the high-yield bond market, the major contraction and consolidation of the thrift industry, the collapse of the Soviet Union, the development of the European Economic Community, the attacks of Sept. 11, 2001, the global financial crisis of 2008-2009, and most recently, the market crash in the first quarter of 2020 that was precipitated by the spread of the COVID-19 virus.
>
> It is even difficult for economists to predict the economic environment of the future. For example, if one were analyzing the stock market in 1987 before the crash, it would be statistically improbable to predict the impending short-term volatility without considering the stock market crash and market volatility of the 1929-1931 period.
>
> Without an appreciation of the 1920s and 1930s, no one would believe that such events could happen. The 97-year period starting with 1926 represents

> what can happen: It includes high and low returns, volatile and quiet markets, war and peace, inflation and deflation, and prosperity and depression. Restricting attention to a shorter historical period underestimates the amount of change that could occur in a long future period. Finally, because historical event-types (not specific events) tend to repeat themselves, long-run capital market return studies can reveal a great deal about the future. Investors probably expect unusual events to occur from time to time, and their return expectations reflect this.[48]

To this point, Mr. Baudino cites the downward bias in bond historical returns, which references the 1940s and the immediate post-war period, when the Fed artificially held down government bond yields, increasing historical MRPs for that period.[49] It could be argued that in the period between 2008 and 2015 and from 2020 to 2022, the Fed did the same (artificially held down lending rates) to spur growth. As Kroll stated above, without a view of the prior period, it would be improbable for an analyst to predict future events during similar circumstances.

In view of all of the foregoing, it is indeed appropriate to use long-term historical ERPs derived from the arithmetic mean long-term historical return on large company common stocks, and the arithmetic mean long-term historical income return on long-term U.S. government securities, for cost of capital purposes.

Q. WHAT IS YOUR POSITION ON THE 5.50% MRP QUOTED BY KROLL?

A. A forecast is only as good as its inputs, and if the assumptions within those forecasts are by its nature unpredictable (e.g., productivity growth forecasts), they are of little value. In addition, the determination of the MRP as calculated by Kroll is not transparent, especially in view of the historical MRP and supply side MRP presented in SBBI - 2023, which is already well known by investors. Because of the transparency of the historical data and how to gather and use the components of the supply side model, both the historical MRP

[48] SBBI - 2023, at 193-194.
[49] Baudino Direct Testimony, at 27-28.

(using the long-term arithmetic mean return on large company stocks less the long-term arithmetic income returns on long-term Government bonds) and the supply side model are superior measures of the MRP, when compared to Kroll's simplistic and opaque MRP forecast.

Q. WHY IS THE KROLL MRP MORE OPAQUE THAN OTHER MEASURES OF THE MRP?

A. The MRP is calculated by subtracting a risk-free rate from the investor-required return on the market. Typically, the return on the market uses observable market measures (e.g. historical average returns, supply side model), but the Kroll MRP does not define how they calculate their expected return on the market. Similarly, the risk-free rate is typically also based on market measures (e.g., historical interest rates, forecasted interest rates), but Kroll does not explain how they derive their 3.5% normalized risk-free rate. The extent to which yields have remained above 4.00% as noted previously further calls Kroll's estimates into question.[50] Because Kroll does not reveal how they derive their estimates, we do not know if they are indeed based on market measures.

Q. WHAT CONCERNS DO YOU HAVE REGARDING THE KPMG MRP?

A. Similar to the Kroll MRP, the KPMG MRP calculation is not transparent. Also, KPMG Corporate Finance & Valuations Netherland's Equity Market Risk Premium site clearly states limiting conditions to its calculation:

> Note: Other KPMG country practices may have a deviating view on the MRP, as it is dependent on other parameters of the cost of capital determination, which may differ from country to country. In addition, commonly applied local market practice or regulatory requirements may also lead to different conclusions on individual parameters such as the MRP.[51]

[50] As shown in Chart 3, the 30-year Treasury yield has been above 4.00% since September 2024.

[51] KPMG Corporate Finance & Valuations Netherlands, Equity Market Risk Premium – Research Summary, June 30, 2025, at 2.

A further review of KPMG's report reveals that the MRP calculated by KPMG is a global MRP, not a U.S.-specific MRP. As noted in the summary of the report, KPMG gives more weight to "the S&P 500, FTSE and STOXX 600".[52] Mr. Baudino has not provided any support for why a global MRP would be considered by U.S. investors. As a result of the lack of clarity of the MRP coupled with its limiting conditions and inapplicability to the U.S. market, the KPMG MRP should be rejected by the Commission.

Q. PLEASE NOW RESPOND TO MR. BAUDINO'S USE OF THE AVERAGE DAMODARAN 4.28% MRP.

A. Damodaran's method, which is a two-stage form of the DCF model, calculates the present value of cash flows over the five-year initial period, together with the terminal price (based on the Gordon Model), to be received in the last (i.e., fifth) year. The model's principal inputs include the following assumptions:

- Over the coming five years, the S&P 500 Index (the "Index") will appreciate at a rate equal to the compound growth rate in "Operating Earnings";
- Cash flows associated with owning the Index will be equal to the historical average Earnings, Dividends, and Buyback yields, applied to the projected Index value each year; and
- Beginning in the terminal year, the Index will appreciate, in perpetuity, at a rate equal to the 30-day average yield on 30-year Treasury securities.

In terms of historical experience, over the long-term the broad economy has grown at a long-term compound average growth rate of 6.11%.[53] Considered from another perspective, Kroll reports the long-term rate of capital appreciation on Large Company

[52] KPMG Corporate Finance & Valuations Netherlands, Equity Market Risk Premium – Research Summary, June 30, 2025, at 7.

[53] Source: Bureau of Economic Analysis for the years 1929 to 2024. *See also*, www.bea.gov/data/gdp/gross-domestic-product.

stocks to be 7.90%.[54] Using current data as of September 2025,[55] Damodaran's model assumes, however, that the market index will grow by just 3.91% over the coming five years.[56]

Mr. Baudino has not explained why growth beginning five years in the future, and extending in perpetuity, will be approximately one-half of long-term historical growth. Nowhere in his testimony has Mr. Baudino explained the fundamental, systemic changes that would so dramatically reduce long-term economic growth, or why they are best measured by the 30-day average long-term Treasury yield.

Further, research by the Federal Reserve Bank of San Francisco calls into question the relationship between interest rates and macroeconomic growth. As the authors noted, "[o]ver the past three decades, it appears that private forecasters have incorporated essentially no link between potential growth and the natural rate of interest: The two data series have a zero correlation."[57] In view of this, the Commission should reject Mr. Baudino's Damodaran CAPM.

Q. PLEASE NOW RESPOND TO MR. BAUDINO'S USE OF THE IESE BUSINESS SCHOOL SURVEY 5.50% MRP.

A. Damodaran, who was cited by Mr. Baudino throughout his testimony, states the following about the applicability of survey MRPs:

> While survey premiums have become more accessible, very few practitioners seem to be inclined to use the numbers from these surveys in computations and there are several reasons for this reluctance:
>
> 1. Survey risk premiums are responsive to recent stock prices movements, with survey numbers generally increasing after bullish periods and decreasing after market decline. Thus, the peaks in the

[54] SBBI - 2023, at 137.
[55] From Damodaran Online, ERPSep25 Spreadsheet.
[56] From Damodaran Online, ERPSep25 Spreadsheet. Five-year growth rate = (Expected Terminal Value / Intrinsic Value) ^ (1/5) – 1 = (7,826.13 / 6,460.26) ^ (1/5) - 1 = 3.91%.
[57] FRBSF Economic Letter, *Does Slower Growth Imply Lower Interest Rates?*, November 10, 2014, at 3.

SIA survey premium of individual investors occurred in the bull market of 1999, and the more moderate premiums of 2003 and 2004 occurred after the market collapse in 2000 and 2001.

2. Survey premiums are sensitive not only to whom the question is directed at but how the question is asked. For instance, individual investors seem to have higher (and more volatile) expected returns on equity than institutional investors and the survey numbers vary depending upon the framing of the question.[footnote omitted] Kaustia, Lehtoranta and Puttonen (2011) surveyed 1,465 Finnish investment advisors and note that not only are male advisors more likely to provide an estimate but that their estimated premiums are roughly 2% lower than those obtained from female advisors, after controlling for experience, education and other factors.[footnote omitted]

3. Studies that have looked at the efficacy of survey premiums indicate that if they have any predictive power, it is in the wrong direction. Fisher and Statman (2000) document the negative relationship between investor sentiment (individual and institutional) and stock returns.[footnote omitted] In other words, investors becoming more optimistic (and demanding a larger premium) is more likely to be a precursor to poor (rather than good) market returns.

As technology aids the process, the number and sophistication of surveys of both individual and institutional investors will also increase. However, it is also likely that these survey premiums will be more reflections of the recent past rather than good forecasts of the future.[58]

As a result, the Commission should reject Mr. Baudino's IESE Business School (Fernandez) Survey MRP.

[58] Aswath Damodaran, Stern School of Business, *Equity Risk Premiums (ERP): Determinants, Estimation, and Implications – The 2025 Edition*, Updated March 5, 2025, at 30-31.

Q. DID YOU CONDUCT A STUDY TO DETERMINE THE FORECAST ACCURACY OF THE KROLL RECOMMENDED MARKET RETURN, THE DAMODARAN IMPLIED MARKET RETURN, AND THE FERNANDEZ STUDY IMPLIED MARKET RETURN RELATIVE TO THE SBBI - 2023 HISTORICAL MARKET RETURN AND THE IBBOTSON-CHEN STUDY?

A. Yes, I did. I have calculated the forecast bias[59] of the long-term historical average return, the Ibbotson-Chen study, and the implied market returns from Kroll, Damodaran, and the Fernandez Survey from 2008-2024 to determine the most accurate measure of the following years' market return.[60] For example, the long-term average market return from 1926-2008 was used to determine the forecasted return for 2009. The result of this analysis is shown as Rebuttal Exhibit DWD-6 and Table 4, below:

[59] Forecast bias can be described as a tendency to either over-forecast or under-forecast a given variable.

[60] 2008 was selected as the starting year as it is the first year Kroll published its recommended MRP and risk-free rate.

Table 4: Comparison of Forecast Bias for Various Measures 2009-2024

Year	Observed Market Return	Long-Term Average Return	Ibbotson-Chen Study Return	Kroll Forecasted Market Return	Damodaran Implied Equity Risk Premium	Fernandez, IESE Business School MRP and RFR Survey
2009	26.46%	11.67%	11.65%	10.50%	8.64%	10.75%
2010	15.06%	11.85%	11.12%	10.08%	8.20%	10.25%
2011	2.11%	11.88%	10.54%	9.63%	8.49%	9.32%
2012	16.00%	11.77%	11.34%	10.00%	7.89%	7.96%
2013	32.39%	11.82%	11.49%	9.50%	7.54%	8.10%
2014	13.69%	12.05%	11.43%	9.00%	8.00%	8.81%
2015	1.38%	12.07%	11.41%	9.00%	7.95%	7.90%
2016	11.96%	11.95%	11.46%	9.50%	8.39%	7.60%
2017	21.83%	11.95%	11.28%	9.00%	8.14%	8.20%
2018	-4.38%	12.06%	11.19%	8.50%	7.49%	8.20%
2019	31.49%	11.88%	11.23%	9.00%	8.64%	8.30%
2020	18.40%	12.09%	11.31%	8.75%	7.12%	7.50%
2021	28.71%	12.16%	11.32%	8.00%	5.65%	7.30%
2022	-18.11%	12.33%	11.11%	8.00%	5.75%	8.30%
2023	26.61%	12.02%	11.31%	10.14%	9.82%	9.50%
2024	25.62%	12.16%	11.41%	10.03%	8.48%	9.60%
Sum	249.22%	191.71%	180.60%	148.63%	126.19%	137.59%
Forecast Bias[61]		76.93%	72.47%	59.64%	50.63%	55.21%

As shown in Table 4, while all of these measures understate the actual return (i.e., forecast bias values less than 100%), the forecasted market returns relied on by Mr. Baudino significantly and consistently understate the actual return. This result is consistent with Campbell, who states that when returns are serially uncorrelated, the arithmetic average represents the best forecast of future returns in any randomly selected future year.[62] Given this analysis, the Commission should reject Mr. Baudino's alternative MRPs used in his CAPM analysis.

[61] Calculated by dividing the sum of the forecast returns by the sum of the actual returns.

[62] John Y. Campbell, "Forecasting US Equity Returns in the 21st Century," Social Security Administration, July 2001.

Q. HAS MR. BAUDINO INCLUDED AN ECAPM ANALYSIS?

A. No, he has not, even though Mr. Baudino does note the lack of predictive power of beta on page 23 of his direct testimony.

Q. WHY DOESN'T MR. BAUDINO EMPLOY THE ECAPM?

A. Mr. Baudino does not employ the ECAPM because he claims that the ECAPM is not used by investors.[63]

Q. MR. BAUDINO CLAIMS THAT WHILE YOU CITED THE SOURCE OF THE ECAPM FORMULA, YOU PROVIDED NO EVIDENCE THAT THE ECAPM IS USED BY INVESTORS.[64] PLEASE RESPOND.

A. Mr. Baudino is mistaken. Because the subject of beta's inaccuracy is debated in financial literature, the mere presence of that literature is proof that investors would consider the ECAPM in their investment decisions.

Q. IS THERE ADDITIONAL EVIDENCE THAT SUPPORTS THE VALIDITY OF THE ECAPM?

A. Yes, there is. The empirical issues with the CAPM have been present since the presentation of the model, as noted by Dianna R. Harrington in her text Modern Portfolio Theory & the Capital Asset Pricing Model:

> So far we have learned some very interesting things about the CAPM and reality. Some of the earliest work tested realized data (history) against data generated by simulated portfolios. Early studies by Douglas (1969) and Lintner (Douglas [1969]) showed discrepancies between what was expected on the basis of the CAPM and the actual relationships that were apparent in the capital markets. Theoretically, the minimal rate of return from the portfolios (the intercept) and the actual risk-free rate for the period should have been equal. They were not.

* * *

[63] Baudino Direct Testimony, at 58.
[64] Baudino Direct Testimony, at 58.

Another study, now more famous than Lintner's was done by Black, Jensen, and Scholes (1972). Lintner had used what is called a cross-sectional method (looking at a number of stock returns during one time period), whereas Black, Jensen, and Scholes used a time-series method (using returns for a number of stocks over several time periods). To make their test, Black, Jensen, and Scholes assumed that what had happened in the past was a good proxy for the investor expectations (a frequent assumption in CAPM tests). Using historical data, they generated estimates using what we call the market model:

$$R_{jt} = \alpha_j + \beta_j (R_{mt}) + \varepsilon_j$$

Where:

R = total returns
β = the slope of the line (the incremental return for risk)
α = the intercept or a constant (expected to be 0 over time and across all firms)
ε = an error term (expected to be random, without information)
m = the market proxy
j = the firm or portfolio
t = the time period

Instead of using single stocks, they formed portfolios in an effort to wash out one source of error; because betas of single firms are quite unstable.

On the basis of the CAPM, they expected to find

1. That the intercept was equal to the risk-free rate (their proxy was the Treasury bill rate)
2. That the capital market line had a positive slope and that riskier (higher beta) securities provided higher return

Instead they found

1. That the intercept was different from the risk-free rate
2. That high-risk securities earned less and low-risk securities earned more than predicted by the model
3. That the intercept seemed to depend on the beta of any asset: high-beta stocks had a different intercept than low-beta stocks

* * *

Fama and MacBeth (1974) criticized the Black, Jensen, and Scholes study (hereafter called BJS). In a reformulation of the study, they supported the first of the BJS findings. They found that the intercept exceeded the risk-

free proxy, but did not find the evidence to support the other BJS conclusions.[65]

Harrington discusses Black's potential solution to this phenomenon:

> Black's replacement for the risk-free asset was a portfolio that had no covariability with the market portfolio. Because the relevant risk in the CAPM is systematic risk, a risk-free asset would be the one with no volatility relative to the market – that is, a portfolio with a beta of zero. All investor-perceived levels of risk could be obtained from various linear combinations of Black's zero-beta portfolio and the market portfolio… Since R_z (the rate of return of the zero-beta asset) and R_m are uncorrelated (as R_f and R_m were assumed to be in the simple CAPM), the investor can choose from various combinations of R_z and R_m. On segment R_mY, R_z, is sold short and proceeds are invested in R_m. On segment R_zR_m, portions of the zero-beta portfolio are purchased. At R_m, the investor is fully invested in the market portfolio. The equilibrium CAPM was rewritten by Black as follows:
>
> $$E(R_i) = (1 - \beta_i) E(R_z) + \beta_i E(R_m)$$
>
> Where:
> E indicates expected,
> $E(R_z)$ is less than $E(R_m)$, and
> R_z holdings over the whole market must be in equilibrium. That is, the number of short sellers and lenders of securities must be equal.
>
> Black's adaptation is intriguing. The result of using this model is a capital market line that has a less steep slope and a higher intercept than those of the simple CAPM. If Black's model is more correct in its description of investor behavior in the marketplace, then the use of the simple model would produce equity return predictions that would be too low for sticks with betas greater than one and too high for stocks with betas of less than one.[66]

As such, while I still find the CAPM to be appropriate, if Mr. Baudino is of the opinion that the CAPM is not reliable, he should have applied an ECAPM analysis. Further, as discussed below, the ECAPM is not simply a second adjustment to a company's beta.

[65] Dianna R. Harrington, Modern Portfolio Theory & the Capital Asset Pricing Model – A User's Guide, Prentice-Hall, Inc. 1983, at 43-45.

[66] Dianna R. Harrington, Modern Portfolio Theory & the Capital Asset Pricing Model – A User's Guide, Prentice-Hall, Inc. 1983, at 30-31.

Q. MR. BAUDINO STATES THAT THE USE OF THE ECAPM SUGGESTS THAT PUBLISHED BETAS ARE INCORRECT AND SHOULD NOT BE RELIED UPON BY INVESTORS IN THEIR CAPM?[67]

A. This is an incorrect understanding of the ECAPM. 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.
>
> 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 $k_i = R_F + b_i(k_M - R_F)$, and in this form b_i looks like the slope coefficient and $(k_M - R_F)$ the variable. It would perhaps be less confusing if the second term were written $(k_M - R_F)b_i$, but this is not generally done.[68]

In addition, in Appendix 6A of Brigham and Gapenski's textbook entitled "Calculating Beta Coefficients," the authors demonstrate that beta, which accounts for regression bias, is not a return adjustment, but rather is based on the slope of a different line.

[67] Baudino Direct Testimony, at 58.

[68] Eugene F. Brigham and Louis C. Gapenski, Financial Management – Theory and Practice, 4th Ed. (The Dryden Press, 1985), at 201-204.

Q. HAVE OTHER JURISDICTIONS CONSIDERED THE ECAPM?

A. Yes, it has been accepted in Alaska, Minnesota, Mississippi, Nevada, New York, and Virginia.[69]

Q. WHAT WOULD THE RESULTS OF MR. BAUDINO'S CAPM ANALYSIS BE GIVEN YOUR CRITIQUES ABOVE?

A. Rebuttal Exhibit DWD-5 adjusts Mr. Baudino's CAPM analysis in the following ways: (1) eliminates the supply side World War II bias, Kroll, KPMG, Damodaran, and IESE Business School Survey MRPs; (2) corrects Mr. Baudino's forward-looking MRP to be consistent with his DCF analysis; (3) corrects the long-term supply side model MRP by using a projected risk-free rate; and (4) applies the ECAPM. The average indicated results of the adjusted applications of both the traditional CAPM and the ECAPM are 10.09% and 10.63%, respectively for Mr. Baudino's electric proxy group, and 10.60% and 11.02%, respectively for his natural gas proxy group.

[69] The Regulatory Commission of Alaska, Docket P-97-7, Order Rejecting 1997, 1998, 1999 and 2000 Filed TAPS Rates; Setting Just and Reasonable Rates; Requiring Refunds and Filings; and Outlining Phase II Issues, November 27, 2002, at 146; Minnesota Public Utilities Commission, MPUC Docket No. G011/GR-15-736, In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota, Findings of Fact, Conclusions of Law, and Recommendation, August 19, 2016, at 29; Mississippi Public Service Commission, Docket No. 01-UN-0548, Notice of Intent of Mississippi Power Company to Change Rates for Electric Service in its Certificated Areas in the Twenty-Three Counties of Southeast Mississippi, Final Order, December 3, 2001, at 19; Public Utilities Commission of Nevada, Docket No. 20-02023, Application of Southwest Gas Corporation for authority to increase its retail natural gas utility service rates for Southern and Northern Nevada, Order, September 23, 2020, at 35; New York Public Service Commission, Case 16-G-0058, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of KeySpan Gas East Corporation d/b/a National Grid for Gas Service, Order Adopting Terms of Joint Proposal and Establishing Gas Rate Plans, December 16, 2016, at 32; In the Matter of Application of Virginia Electric and Power Company, d/b/a Dominion Energy North Carolina for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina, Docket No. E-22, Sub 562 Order Accepting Public Staff Stipulation in Part, Accepting CIGFUR Stipulation, Deciding Contested Issues, and Granting Partial Rate Increase, February 24, 2020, at 40.

Q. WHAT WOULD MR. BAUDINO'S COMMON EQUITY COST RATES BE BASED ON THE CORRECTIONS TO HIS DCF AND CAPM ANALYSES DISCUSSED ABOVE?

A. The results of corrections to Mr. Baudino's DCF and CAPM are provided in Tables 5 and 6, below:

Table 5: Summary of Baudino Corrected Results – Electric Proxy Group

Measure	Recommended Range	
Discounted Cash Flow Model	10.10% - 10.22%	
	CAPM	**ECAPM**
Capital Asset Pricing Model	10.03%	10.57%

Table 6: Summary of Baudino Corrected Results – Natural Gas Proxy Group

Measure	Recommended Range	
Discounted Cash Flow Model	10.91% - 11.09%	
	CAPM	**ECAPM**
Capital Asset Pricing Model	10.55%	10.96%

In view of these corrected results, Mr. Baudino's reasonable range of ROEs would be from 10.03% to 10.57% for his electric proxy group and 10.55% to 11.09% for his natural gas proxy group. However, indicated ranges of ROEs from 10.03% to 10.57% and 10.55% to 11.09% still understate the Companies' ROE because they do not reflect their smaller size and increased credit risk relative to the proxy groups, nor do they account for flotation costs.

D. Adjustments to the Common Equity Cost Rate

Q. DOES MR. BAUDINO CONSIDER A SIZE ADJUSTMENT IN HIS RECOMMENDED ROE?

A. No, he does not. Mr. Baudino claims that a size adjustment is not warranted because the data on which Kroll relies to estimate the size premium deciles includes non-regulated companies and the betas associated with the deciles are higher than those for regulated utilities, including the proxy companies.[70] In addition, Mr. Baudino believes the size adjustment is inconsistent with the credit risk adjustment.[71]

Q. YOU PRESENTED STUDIES BASED ON UTILITY-SPECIFIC DATA SUPPORTING YOUR SIZE ADJUSTMENT IN YOUR DIRECT TESTIMONY.[72] DID MR. BAUDINO RESPOND TO THOSE STUDIES?

A. No, he did not. Although Mr. Baudino raises concern with the inclusion of non-regulated companies in the Kroll data, the studies shown on pages 55 and 56 of my Direct Testimony are based on utility-specific data and are consistent with academic literature which found a relationship between size and risk.[73] As such, the fact that the betas associated with the Kroll size deciles are higher than those of the proxy companies does not negate the finding that smaller companies face higher levels of risk relative to larger companies.

In addition, as noted on page 53 of my Direct Testimony, although the size adjustment based on the Kroll decile data implies upward size adjustments of between 0.18% to 0.75% for the Companies, to be conservative, I applied size adjustments of between 0.05% and 0.15%. Given the academic literature, the empirical analysis of regulated utilities supporting a size adjustment, and my conservative application of the

[70] Baudino Direct Testimony, at 61-62.
[71] Baudino Direct Testimony, at 62.
[72] D'Ascendis Direct Testimony, at 55-56.
[73] D'Ascendis Direct Testimony, at 50-51.

adjustment, the size adjustments presented in my Direct and Rebuttal Testimonies are reasonable.

Q. IN ADDITION TO THE STATISTICAL ANALYSES YOU DISCUSS ABOVE, ARE THERE FUNDAMENTAL BUSINESS AND FINANCIAL FACTORS WHY SMALLER COMPANIES HAVE GREATER RISK?

A. Yes, there are. As I explained in my Direct Testimony on page 49, smaller companies generally are less able to cope with significant events that affect sales, revenues and earnings such as exposure to business cycles and economic conditions, both nationally and locally. Moreover, the loss of revenues from a few larger customers would have a greater effect on a small company than on a larger company with a more diverse customer base. This is as true for utilities as it is for non-regulated companies.

Q. DOES MR. BAUDINO CONSIDER A CREDIT RISK ADJUSTMENT IN HIS RECOMMENDED ROE?

A. No, he does not. Mr. Baudino does however state that I am inconsistent by applying both a credit risk adjustment and size adjustment, because "credit ratings from S&P and Moody's reflect a comprehensive risk assessment of the companies that receive these ratings."[74]

Q. IS APPLYING BOTH A CREDIT RISK ADJUSTMENT AND SIZE ADJUSTMENT INCONSISTENT?

A. No, it is not. As noted in my Direct Testimony, the size premium I employ reflects risks not contemplated by credit ratings (i.e., there is no minimum size requirement for any given rating).[75] As such, applying both a credit risk adjustment and size adjustment is consistent and necessary to reflect the stand-alone risk of the Companies.

[74] Baudino Direct Testimony, at 62.
[75] D'Ascendis Direct Testimony, at 12.

Q. MR. BAUDINO ARGUES THAT FLOTATION COSTS SHOULD NOT BE CONSIDERED BECAUSE, IN HIS OPINION, "IT IS LIKELY THAT FLOTATION COSTS ARE ALREADY ACCOUNTED FOR IN CURRENT STOCK PRICES".[76] WHAT IS YOUR RESPONSE TO MR. BAUDINO ON THAT POINT?

A. I disagree. The models used to estimate the appropriate ROE assume no "friction" or transaction costs, as these costs are not reflected in the market price (in the case of the DCF model) or risk premium (in the case of the RPM and the CAPM). Mr. Baudino provides no support for his opinion that current stock prices account for flotation costs, and his position should be disregarded.

Q. WHAT IS MR. BAUDINO'S RANGE OF ROES APPLICABLE TO THE COMPANY AFTER ADJUSTMENT?

A. Mr. Baudino's corrected, adjusted results are summarized in Table 7, below:

Table 7: Summary of Baudino Corrected Results with Adjustments

Measure	Louisville Gas & Electric - Gas	Louisville Gas & Electric - Electric	Kentucky Utilities
Indicated Range of ROEs Before Adjustment	10.60% - 11.09%	10.09% - 10.63%	10.09% - 10.63%
Size Adjustment[77]	0.05%	0.05%	0.10%
Credit Risk Adjustment[78]	0.00%	-0.13%	-0.13%
Flotation Cost Adjustment[79]	0.15%	0.15%	0.15%
Indicated Range of ROEs After Adjustment	10.80% - 11.29%	10.16% - 10.70%	10.21% - 10.75%

76 Baudino Direct Testimony, at 63.

77 As shown in Rebuttal Exhibit DWD-7, I conducted a size study in the same manner for Mr. Baudino's proxy groups indicating a size premium of 0.17% and 0.41% for LGE and KU's electric operations, respectively, based on Mr. Baudino's electric proxy group. A size premium of 0.14% is indicated for LGE's natural gas operations based on Mr. Baudino's natural gas proxy group.

78 Rebuttal Exhibit DWD-8. The credit rating adjustment is calculated based on Mr. Baudino's Natural Gas and Electric Proxy group.

79 Rebuttal Exhibit DWD-1 at page 62.

In view of these corrected and adjusted model results, Mr. Baudino's recommended range of ROEs from 9.00% to 10.00% for his electric proxy group and 9.30% to 10.20% for his natural gas proxy group significantly understates the ROE for the Companies at this time.

E. Response to Mr. Baudino's Critiques of Company Testimony

Q. DOES MR. BAUDINO HAVE CRITIQUES OF YOUR ROE ANALYSES?

A. Yes. Mr. Baudino's critiques of my analyses are as follows: (1) my recommended ROE is out of line with recently authorized returns; (2) the exclusion of DPS growth rates in my DCF analyses; (3) the application of my RPM; (4) the application of my CAPM and ECAPM; (5) my use of non-price regulated proxy groups comparable in total risk to my Utility Proxy Groups; (6) my application of a size premium to my indicated ROE; (7) my application of a credit risk adjustment to my indicated ROE; and (8) my application of a flotation cost adjustment to my indicated ROE.

I have already addressed critique numbers (1), (2) and (6) through (8) previously in my Rebuttal Testimony, so I will not address them again here. I will address the remaining critiques below.

i. Risk Premium Model

Q. PLEASE SUMMARIZE MR. BAUDINO'S CRITIQUES OF YOUR RPM.

A. Mr. Baudino has the following critiques of my RPM: (1) that my historical MRP includes certain historical data that may bias the long-term average; (2) that my regression-based MRPs and ERPs have little predictive value; (3) that I did not demonstrate that the predictive risk premium model ("PRPM") is relied on by investors or accepted by utility commissions; (4) that the level of the PRPM results are "excessive"; (5) that the projected market returns used in my total market approach RPM are excessive; (6) that my

regression-based ERP based on authorized returns is not considered by investors. I have already addressed critique (1) and will not address it here as well. I will address each of the remaining critiques in turn.

Q. MR. BAUDINO CLAIMS THAT THE EXPLANATORY POWER OF YOUR REGRESSION-BASED MARKET RISK PREMIUM IS POOR AND CANNNOT BE USED ACCURATELY FOR FORECASTING PURPOSES.[80] PLEASE RESPOND.

A. "R Square" can be defined as "the portion of the movement in the dependent variable that can be explained by the regression model".[81] There is no specific thresholds for which I consider regression models to have low or high R Square values. As noted by Halcoussis in *Understanding Econometrics*:

> There is no absolute standard for R2, one that says, for example, "An R2 larger than 0.75 (or any number) means the model is good." Typically, R2 is higher in time series regressions than in cross-sectional regressions. The area of study is important also. If changes in the dependent variable are hard to explain, then 0.40 might be a great R2, but if the dependent variable is easily predicted, an R2 of 0.80 may indicate a poor fit.[82]

While the three regressions that I use in my analyses may have "low" or "acceptable" R Square values, the relevant fact is that the relationships I examined have the expected sign, and are statistically significant, not whether the R Square values meet a specific threshold.

Q. MR. BAUDINO CLAIMS THAT YOU HAVE NOT PROVEN THAT YOUR PRPM IS RELIED ON BY INVESTORS.[83] PLEASE RESPOND.

A. As discussed in my Direct Testimony,[84] the PRPM is based on the research of Dr. Robert F. Engle, dating back to the early 1980s. Dr. Engle discovered that the volatility of market

80 Baudino Direct Testimony, at 47.
81 Dennis Halcoussis, Understanding Econometrics, 2005, at 58.
82 Dennis Halcoussis, Understanding Econometrics, 2005, at 58.
83 Baudino Direct Testimony, at 49.
84 D'Ascendis Direct Testimony, at 27-28.

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).[85] Dr. Engle[86] noted that relative to volatility, "the standard tools have become the ARCH/GARCH[87] models." Hence, the methodology is not exclusively used by me and would be relied on by investors.

Q. IS THE PRPM CITED IN ACADEMIC LITERATURE BESIDES THE ARTICLES CITED ABOVE AND IN YOUR DIRECT TESTIMONY?

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, who Mr. Baudino cites on several occasions in his direct testimony, 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.[88]

[85] www.nobelprize.org

[86] 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.

[87] Autoregressive Conditional Heteroskedasticity/Generalized Autoregressive Conditional Heteroskedasticity.

[88] 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.

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.
>
> ***
>
> 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.[89]

Q. MR. BAUDINO STATES THAT YOU HAVE NOT SHOWN THAT THE PRPM HAS BEEN WIDELY ACCEPTED BY REGULATORY COMMISSIONS. PLEASE RESPOND.

A. As noted in my Direct Testimony, the PRPM has been accepted by the Public Service Commission of South Carolina and the State of North Carolina Utilities Commission. As also discussed above and in my Direct Testimony,[90] I recognize the Commission has rejected the PRPM in several dockets. However, the soundness of the model, as evidenced by the underlying theory and academic vetting of the model should lead the Commission to reconsider it in this case.

[89] Morin, at 139-140, 142.
[90] D'Ascendis Direct Testimony, at 30-31.

Q. MR. BAUDINO STATES THAT THE ULTIMATE RESULT PRODUCED BY THE PRPM IS "EXCESSIVE" AND MERELY SERVES TO INFLATE YOUR RPM RESULTS.[91] PLEASE RESPOND.

A. Mr. Baudino is mistaken. Regarding the level of indicated ROEs being a determinant of the PRPM being a flawed model, Mr. Baudino only looks to the results and not the underlying theory of the model, which won the Nobel Prize for Economics, and has not been rebutted in the academic literature for over a decade since being published in the Journal of Economics and Business in June 2011. Since Mr. Baudino does not rebut the underlying model nor uncover any issues in the calculation of the GARCH-in-mean model, his claim should be dismissed by the Commission.

Regarding the impact of the PRPM on the results, the inclusion of the PRPM lowers the top of my range of indicated results in my Direct and Rebuttal Testimonies by one basis point and lowers the bottom of the range for my Electric Utility Proxy Group in my Rebuttal Testimony by two basis points. As noted in my Direct Testimony, the inclusion of the PRPM does not have a meaningful effect on my recommended range.[92]

Q. MR. BAUDINO CLAIMS THAT YOUR ERP BASED ON THE BETA-ADJUSTED TOTAL MARKET APPROACH IS UNREPRESENTATIVE OF CURRENT INVESTOR-REQUIRED ROES. PLEASE RESPOND.

A. Mr. Baudino fails to consider the other measures I have considered in calculating my overall ERP. As shown on Rebuttal Exhibit DWD-9, the ERPs in my Direct and Rebuttal Testimonies all fall within the 48th percentile of historical ERPs (as measured by the return on the S&P Utility Index less the yield on an A-rated utility bond). Mr. Baudino's concerns regarding the level of my ERPs in my RPM should be dismissed.

[91] Baudino Direct Testimony, at 51.
[92] D'Ascendis Direct Testimony, at 31.

Q. MR. BAUDINO CLAIMS THAT YOUR MRP CALCULATIONS INCLUDE OVERSTATED EXPECTED MARKET RETURNS DUE TO UNSUSTAINABLY HIGH EARNINGS GROWTH RATES.[93] PLEASE RESPOND.

A. The goal of a market weighted DCF analysis is to calculate an investor-required return on the market, using dividend yields as a proxy for income returns and projected EPS growth as a proxy for capital appreciation (dividend yield plus capital appreciation equals total return). Because this calculation results in a projected market return, one would need to determine whether market returns, not DCF growth rates, are related to GDP growth rates.

To determine if Mr. Baudino's criticism was valid, I calculated the correlation coefficient between year-over-year GDP growth and large-capitalization annual stock returns from 1929 to 2024. The correlation coefficient was 0.14, which means that there is little to no link between GDP growth and stock returns. As such, Mr. Baudino's reasoning to discount my market DCF analysis is misplaced.

Q. PLEASE RESPOND TO MR. BAUDINO'S CRITIQUE OF YOUR REGRESSION RISK PREMIUM BASED ON AUTHORIZED ROES.[94]

A. Mr. Baudino suggests that I have not supported my risk premium based on a regression of authorized ROEs, despite the fact I provided two academic journals supporting the inverse relationship between interest rates and the equity risk premium.[95] Mr. Baudino's also provides anecdotal evidence that interest rates and authorized ROEs move in the same direction.[96] Further, it is widely accepted that the concept of utility regulation as a substitute for competition, *i.e.,* the authorized ROE, is intended to be equivalent to the

93 Baudino Direct Testimony, at 52-54.
94 Baudino Direct Testimony, at 55.
95 D'Ascendis Direct Testimony, at 35, footnote 34.
96 Baudino Direct Testimony, at 5-6.

investor-required return. The CRRA Guide, which, as noted previously, is the training manual for Society for Utility Regulatory Financial Analysts states:

> In a sense, the "visible hand of public regulation was (created) to replace the invisible hand of Adam Smith in order to protect consumers against exorbitant charges, restriction of output, deterioration of service, and unfair discrimination."[footnote omitted]
>
> ***
>
> As indicated above, regulation of public utilities reflects a belief that the competitive mechanism alone cannot be relied upon to protect the public interest. Essentially, it is theorized that a truly competitive market involving utilities cannot survive and, thereby, will fail to promote the general economic welfare. But this does not mean that regulation should alter the norm of competitive behavior for utilities. On the contrary, the primary objective of regulation is to produce market results (*i.e.,* price and quantity supplied) in the utility sectors of the economy closely approximating those conditions which would be obtained if utility rates and services were determined competitively.[97]

Additionally, in Principles of Public Utility Rates, Bonbright states:

> Lest the reader of this chapter gain the impression that it is intended to deny the relevance of any tests of reasonable rates derived from the theory or the behavior of competitive prices, let me state my conviction that no such conclusion would be warranted. On the contrary, a study of price behavior both under assumed conditions of pure competition and under actual conditions of mixed competition is essential to the development of sound principles of utility rate control. Not only that: any good program of public utility rate making must go a certain distance in accepting competitive-price principles as guides to monopoly pricing. For rate regulation must necessarily try to accomplish the major objectives that unregulated competition is designed to accomplish; and the similarity of purpose calls for a considerable degree of similarity of price behavior.
>
> Regulation, then, as I conceive it, is indeed a substitute for competition; and it is even a partly imitative substitute. But so is a Diesel locomotive a partly imitative substitute for a steam locomotive, and so is a telephone message a partly imitative substitute for a telegraph message. What I am trying to emphasize by these crude analogies is that the very nature of a monopolistic public utility is such as to preclude an attempt to make the emulation of competition very close. The fact, for example, that theories of pure competition leave no room for rate discrimination, while suggesting a reason for viewing the practice with skepticism, does not prove that

[97] David C. Parcell, Cost of Capital Manual, Society of Utility and Regulatory Financial Analysts, 2010 Edition, at 3-4.

> discrimination should be outlawed. And a similar statement would apply alike to the use of an original-cost or a fair value rate base, neither of which is defensible under the theory or practice of competitive pricing.[98]

Finally, Phillips states in The Regulation of Public Utilities:

> Public utilities are no longer, if they were ever, isolated from the rest of the economy. It is possible that the expanding utility sector has been taking too large a share of the nation's resources, especially of investment.[footnote omitted] At a minimum, regulation must be viewed in the context of the entire economy – and evaluated in a similar context. Public utilities have always operated within the framework of a competitive system. They must obtain capital, labor and materials in competition with unregulated industries. Adequate profits are not guaranteed to them. Regulation then, should provide incentives to adopt new methods, improve quality, increase efficiency, cut costs, develop new markets and expand output in line with customer demand. In short, regulation is a substitute for competition and should attempt to put the utility sector under the same restraints competition places on the industrial sector.[99]

In view of the above, regulation is indeed a substitute for competition and ROEs determined by regulatory commissions would be perceived by investors as the required cost of capital. That being said, as discussed in my Direct Testimony,[100] an authorized ROE should provide the utility with the opportunity to earn a return that is: (1) adequate to attract capital at reasonable cost and terms; (2) sufficient to ensure their financial integrity; and (3) commensurate with returns on investments in enterprises having corresponding risks. If the ROE authorized by a regulatory commission does not satisfy these standards, that ROE would not be an indication of a market cost of equity.

98 James C. Bonbright, Principles of Public Utility Rates, Columbia University Press, 1961, at 106-107.
99 Charles F. Phillips, The Regulation of Public Utilities, Public Utility Reports, Inc., 1993, at 173.
100 D'Ascendis Direct Testimony, at 6-7.

ii. Capital Asset Pricing Model

Q. PLEASE SUMMARIZE MR. BAUDINO'S CRITIQUES ON YOUR APPLICATION OF THE CAPM.

A. Mr. Baudino critiques the following: (1) my projected market return; (2) the level of certain of my MRPs; and (3) my use of the ECAPM. As I discussed the applicability of the ECAPM previously, I will not repeat that discussion here. I will address the remaining critiques in turn.

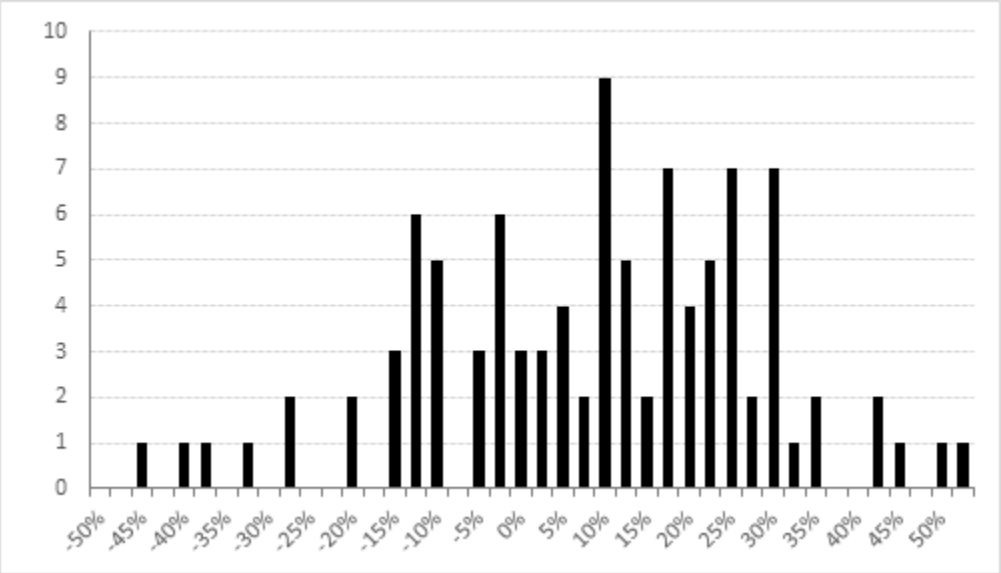
Q. MR. BAUDINO STATES THAT YOUR MARKET RETURN ESTIMATES, AS DERIVED BY *VALUE LINE*, BLOOMBERG, AND S&P CAPITAL IQ DATA ARE OUT OF LINE.[101] PLEASE RESPOND.

A. Mr. Baudino fails to consider the other four measures I have considered. The average implied market return for my Direct (12.70%)[102] and Rebuttal Testimonies (13.14%)[103] represent the approximately 47th and 48th percentile of actual returns observed from 1926 to 2024, respectively, as shown on Rebuttal Exhibit DWD-10. As discussed in my Direct Testimony and as noted by Mr. Baudino, multiple measures give greater insight into the investor-required return than a limited number of measures. The average implied market return for my Direct and Rebuttal Testimonies are 12.70% and 13.14%, respectively, which are comparable to the average historical market return of approximately 12.00%. Moreover, because market returns historically have been volatile, my market return estimates are statistically indistinguishable from the long-term arithmetic average market data on which Mr. Baudino relies.[104]

101 Baudino Direct Testimony, at 53-54.
102 12.69% Excluding the PRPM.
103 13.10% Excluding the PRPM.
104 SBBI - 2023, at Appendix A-1.

Recalling that Mr. Baudino includes historical data among the methods he used to estimate the MRP, I therefore produced a histogram of the annual MRPs reported by Kroll. The results of that analysis, which are presented in Chart 4 below, demonstrate average MRPs of 8.15%[105] (Direct Testimony) to 8.53%[106] (Rebuttal Testimony) occur approximately 49% of the time.

Chart 4: Frequency Distribution of Observed Market Risk Premia, 1926-2024[107]



Q. MR. BAUDINO CLAIMS THAT YOUR MRP CALCULATIONS INCLUDE OVERSTATED EXPECTED MARKET RETURNS DUE TO UNSUSTAINABLY HIGH EARNINGS GROWTH RATES.[108] PLEASE RESPOND.

A. Mr. Baudino asserts that the growth rates from *Value Line*, Bloomberg, and S&P Capital IQ are "excessive" based on the same argument he makes regarding the RPM analysis.[109] As discussed above, there is little to no relationship between GDP growth (which Mr. Baudino believes is a sustainable level of growth) and market returns. Because GDP

105 8.14% excluding the PRPM.
106 8.49% excluding the PRPM.
107 Rebuttal Exhibit DWD-10.
108 Baudino Direct Testimony, at 57.
109 Baudino Direct Testimony, at 57.

growth and market returns are not related, his reasoning to discount my MRP calculations is misplaced.

Q. DO YOU HAVE ANY COMMENTS ON MR. BAUDINO'S REFERENCE THAT MRPS RANGING FROM 5% TO 8% IS APPROPRIATE?[110]

A. Yes, I do. First, Mr. Baudino does not provide any additional information on when an MRP should be 5% and when it should be 8%, seemingly leaving it up to judgment. This is contradictory to his position that the Commission should rely on the facts of the case. Second, as shown on Rebuttal Exhibit DWD-5, which contains my corrections to Mr. Baudino's CAPM, the average MRP shown in that Exhibit falls within the range of 5% to 8%. Finally, Mr. Baudino relies on an MRP of 4.28% from Damodaran, over 70 basis points below the stated range. My updated MRP is only 53 basis points above the stated range.

iii. Non-Price Regulated Proxy Group

Q. PLEASE SUMMARIZE MR. BAUDINO'S CONCERN WITH YOUR NON-PRICE REGULATED PROXY GROUP.

A. Mr. Baudino's concern is that non-utility companies face risks that lower-risk natural gas and electric utility companies do not face.[111]

Q. DOES MR. BAUDINO DISCUSS THE IMPORTANCE OF DETERMINING COMPARATIVE LEVELS OF RISK IN MAKING INVESTMENT DECISIONS?

A. Yes, he does. Mr. Baudino states the task of a rate of return analyst is to "estimate a return on equity that is equivalent to that being offered by other risk-comparable firms", which he notes could be a "utility stock, a utility bond, a mutual fund, a money market fund, or

[110] Baudino Direct Testimony, at 58.
[111] Baudino Direct Testimony, at 59.

any other number of investment vehicles."[112] Mr. Baudino clearly recognizes that risk-comparable investments do not necessarily have to be regulated utilities.

Q. HAVE YOU SHOWN YOUR NON-PRICE REGULATED PROXY GROUPS TO BE COMPARABLE IN RISK TO YOUR UTILITY PROXY GROUPS?

A. Yes, I have. As discussed in my Direct Testimony, the selection criteria for my Non-Price Regulated Proxy Groups were based on a range of unadjusted betas (a measure of systematic risk) and a range of standard errors of the regression (a measure of unsystematic risk), which gave rise to those betas, and together measure total risk.[113]

As to the comparability of my Non-Price Regulated and Utility Proxy Groups, the selection criteria for my Non-Price Regulated Proxy Groups were based on ranges of two measures of risk, the unadjusted beta of the 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. Systematic plus non-systematic risk is one definition of total risk.[114] Mr. Baudino echoes this fact on page 21 of his 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 group are similar, then the total, or aggregate, non-diversifiable market risks and diversifiable risks are similar, as noted in "Comparable Earnings: New Life for an Old Precept" provided in Rebuttal Exhibit DWD-11. Thus, because the non-price regulated companies are selected based on analyses of market data, they are comparable in total risk (even though individual risks may vary) to the Natural Gas and Electric Utility Proxy Groups. This is demonstrated clearly on page 273 of Jack C. Francis' Investments: Analysis and Management (page 3 of

[112] Baudino Direct Testimony, at 5.
[113] D'Ascendis Direct Testimony, at 44.
[114] Business risk plus financial risk is a second definition of total risk.

Rebuttal Exhibit DWD-12), which shows that total risk can be "partitioned into its systematic and unsystematic components." Essentially, companies that have similar betas and standard errors of regression have similar total investment risk.

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[115] and financial risk measures are more subjective. In view of all of the above, Mr. Baudino's concerns regarding my Non-Price Regulated Proxy Groups should be dismissed by the Commission.

Q. HAVE YOU CONDUCTED ANOTHER ANALYSIS TO DETERMINE WHETHER YOUR UTILITY PROXY GROUPS AND NON-PRICE REGULATED PROXY GROUPS ARE OF COMPARABLE RISK?

A. Yes, I have. On page 23 of Mr. Baudino's direct testimony, he mentions that *Value Line's* Safety Ranking is a proxy for a company's total risk. I compared the average and median *Value Line* Safety Ranking, as well as the annualized volatility of stock returns and the Coefficient of Variation ("CoV")[116] of net profit for the Utility Proxy Groups and Non-Price Regulated Proxy Groups, as shown on Table 8, below:

[115] Business risk in excess of size risk, which is measurable, as discussed previously.
[116] The CoV, which is a measure of relative volatility, equals the standard deviation divided by the average.

Table 8: Comparison of Safety Rankings, CoV of Net Profit, and Annualized Volatility of Mr. D'Ascendis' Utility Proxy Groups and Non-Price Regulated Proxy Groups

Proxy Group	Average Safety Ranking	Median Safety Ranking	Average CoV Net Profit	Median CoV Net Profit	Average Annualized Volatility	Median Annualized Volatility
Natural Gas						
Natural Gas Utility Proxy Group	1.86	2.00	0.31	0.15	23.78%	24.40%
Non-Price Regulated Proxy Group	1.80	2.00	0.59	0.14	23.93%	23.55%
Electric						
Electric Utility Proxy Group	1.77	2.00	0.12	0.10	21.00%	20.38%
Non-Price Regulated Proxy Group	1.60	1.50	0.18	0.11	23.08%	23.39%

As shown, the Safety Rankings, annualized volatility of their stock returns, and CoV of net profit of the Utility Proxy Groups and the Non-Price Regulated Proxy Groups are comparable, indicating comparable total risk. This, in addition to all of the above, should lead the Commission to consider the results of my Non-Price Regulated Proxy Groups as another measure of the Companies' ROE in this proceeding.

VI. RESPONSE TO DOD/FEA WITNESS GORMAN

Q. PLEASE SUMMARIZE MR. GORMAN'S RECOMMENDATION REGARDING THE COMPANIES' ROE.

A. Mr. Gorman recommends an ROE of 9.50%, within a range of 9.20% to 9.80%.[117] Mr. Gorman sets his recommendation by reference to: (1) his DCF models (ranging from 8.42% to 11.45%);[118] (2) his RPM (ranging from 9.70% to 9.85%);[119] and (3) his CAPM analyses

[117] Gorman Direct Testimony, at 3.
[118] Gorman Direct Testimony, Exhibits MPG-5, MPG-8, and MPG-10.
[119] Gorman Direct Testimony, at 57.

(9.85%).[120] Mr. Gorman's 9.50% recommendation is the midpoint of his range; the low end is set by reference to his recommended DCF-based estimate (9.20%), and the high end set by reference to his RPM and CAPM-based estimates (9.80%).[121]

Q. WHAT ARE THE AREAS OF DISAGREEMENT BETWEEN YOU AND MR. GORMAN?

A. The principal areas in which I disagree with Mr. Gorman include: (1) his contention that utilities have maintained their credit quality in recent years; (2) the applicability of the multi-stage DCF model to utilities; (3) the use of sustainable growth rates in his DCF model; (4) specific inputs to his DCF model; (5) the assumptions and methods underlying his RPM; (6) specific assumptions and inputs to his CAPM; (7) his decision to not reflect any LGE or KU-specific risks in his recommendation; (8) his assessment of the Companies' proposed capital structure; and (9) his analysis of the effect of his proposed ROE on the Companies' financial integrity.

A. <u>Credit Quality Assumptions</u>

Q. MR. GORMAN STATES THAT UTILITY COMPANIES HAVE MAINTAINED THEIR CREDIT QUALITY IN RECENT YEARS. DO YOU AGREE?

A. No, I do not. Although Mr. Gorman's statements regarding a supportive credit environment for utilities sound reasonable, a closer look reveals that not to be the case. While Mr. Gorman states that "from approximately 2016 through the first quarter of 2025, over 80% of the regulated utility industry has a bond rating of BBB+ or stronger," there is significant downward movement in utility credit ratings. As shown in Table 9, below (and in Mr. Gorman Table 1), the number of natural gas utilities rated A- or higher has decreased, while the number of BBB and BBB+ rated electric utilities has increased. That

[120] Gorman Direct Testimony, at 65.
[121] Gorman Direct Testimony, at 65. 9.80% is the average of Mr. Gorman's RPM and CAPM estimates.

shift toward lower credit ratings indicates a deteriorating credit environment for the utility industry which increases overall investment risk.

Table 9: Electric Utility Subsidiaries Credit Ratings[122]

Rating	2020	2025
A or higher	14%	7%
A-	54%	35%
BBB+	19%	41%
BBB	3%	13%
BBB-	1%	1%
Below BBB-	10%	3%

Q. MR. GORMAN APPEARS TO LINK THE STABLE OUTLOOK FOR REGULATED UTILITIES TO INCREASED LEVELS OF CAPITAL EXPENDITURES.[123] PLEASE COMMENT.

A. Mr. Gorman's primary point is that the levels of "capital expenditures are expected to fuel utilities' profit growth" and are "enhancing shareholder value."[124] Mr. Gorman takes a singular view of the issue. First, utilities invest in capital to maintain safe and reliable service to their customers and are normally subject to prudence reviews by their regulators. If the investments were not used and useful, the utility would not be able to earn a return of and on those investments. Second, as noted above, the outlook for regulated utilities is not as robust as Mr. Gorman contends. Finally, the financial community carefully monitors the current and expected financial conditions of utility companies, as well as the regulatory environment in which those companies operate. In that respect, the regulatory environment is one of the most important factors considered in both debt and equity investors' assessments of risk, as discussed above.[125] That is especially important during periods in

122 Source: Gorman Direct Testimony, Table 1.
123 Gorman Direct Testimony, at 7-9.
124 Gorman Direct Testimony, at 8.
125 Moody's Investor Service, Rating Methodology, *Regulated Electric and Gas Utilities*, August 6, 2024; and Standard & Poor's, *Utilities: Assessing U.S. Utility Regulatory Environments*, November 15, 2011.

which the utility expects to make significant capital investments and, therefore, may require access to capital markets, which, as noted in my Direct Testimony, is the case with the Companies.[126]

Q. DO CREDIT RATING AGENCIES RECOGNIZE RISK ASSOCIATED WITH INCREASED CAPITAL EXPENDITURES?

A. Yes, they do. As noted in my Direct Testimony, S&P notes that the expected increase in capital expenditures will put pressure on credit quality.[127]

Q. MR. GORMAN STATES THAT UTILITY STOCKS HAVE NOT EXHIBITED THE HIGHER VOLATILITY OF THE S&P 500 AND HAVE MAINTAINED STRONG VALUATION RELATIVE TO OVERALL MARKET PERFORMANCE.[128] DO YOU AGREE WITH HIS POSITION?

A. No, I do not. As shown on Rebuttal Exhibit DWD-13, for the timeframe encompassing the COVID-19 pandemic through September 2, 2025, utility stocks, as measured by the Natural Gas and Electric Proxy Groups, are more volatile as measured by annualized volatility[129] and perform worse than the S&P 500. This combination (higher volatility and lower returns) is not indicative of "robust valuations" relative to the market.

B. <u>Discounted Cash Flow Model Analyses</u>

Q. PLEASE SUMMARIZE MR. GORMAN'S DCF ANALYSES.

A. Mr. Gorman uses three DCF models: a constant growth DCF, a sustainable growth DCF analysis, and a multi-stage DCF, all using price data for the 13-week period ending July 18, 2025. For his projected three- to five-year EPS growth rates, Mr. Gorman uses Zacks,

126 D'Ascendis Direct Testimony, at 62-65.
127 D'Ascendis Direct Testimony, at 64-65.
128 Gorman Direct Testimony, at 10-11.
129 Annualized volatility equals the standard deviation of returns over the period multiplied by the square root of 252, or the approximate number of trading days in a year.

S&P Capital IQ Market Intelligence, and I/B/E/S; he uses *Blue Chip* for the terminal growth rate in his multi-stage DCF.[130] Mr. Gorman concludes that the indicated DCF model result is 9.20%, which is the midpoint of the 8.90% to 9.50% range he believes is reasonable based on his DCF results.[131] The average and median results of his DCF models are summarized in Table 10, below.

Table 10: Mr. Gorman DCF Results[132]

	Natural Gas Proxy Group		Electric Proxy Group		Combined Proxy Group	
Description	**Average**	**Median**	**Average**	**Median**	**Average**	**Median**
Constant Growth DCF Model (Analysts' Growth)	11.45%	10.91%	10.83%	10.41%	11.04%	10.77%
Constant Growth DCF Model (Sustainable Growth)	9.59%	9.37%	9.21%	8.68%	9.34%	9.05%
Multi-Stage DCF Model	8.70%	9.21%	8.78%	8.42%	8.75%	8.47%
Average	9.91%	9.83%	9.61%	9.17%	9.71%	9.43%

Q. DO YOU HAVE CONCERNS WITH MR. GORMAN'S APPLICATION OF THE DCF MODEL?

A. Yes. I have two main concerns: (1) his use of a sustainable growth rate; and (2) his use of a multi-stage DCF model.

Q. DO YOU AGREE WITH MR. GORMAN'S CONSIDERATION OF SUSTAINABLE GROWTH RATES IN HIS CONSTANT GROWTH DCF ANALYSIS?

A. No, I do not. Morin discusses the sustainable growth model and shows that it relies on knowledge of several factors, including:

- "b": the fraction of earnings per share retained;

130 Gorman Direct Testimony, at 35, 46.
131 Gorman Direct Testimony, at 49.
132 Gorman Direct Testimony, Exhibits MPG-5, MPG-8, and MPG-10.

- "r": the rate of return on equity (ROE);
- "s": the growth rate in common equity due to the sale of stock; and
- "v": the fraction of a stock sale that increases existing book value.

Specifically, Morin states the following:

> There are three problems in the practical application of the sustainable growth method:
>
> (1) It may be even more difficult to estimate what b, r, s and v investors have in mind than it is to estimate what g they envisage. It would appear far more economical and expeditious to use available growth forecasts and obtain g directly instead of relying on four individual forecasts of the determinants of such growth. *It seems only logical that the measurement and forecasting errors inherent in using four different variables to predict growth far exceed the forecasting error inherent in a direct forecast of growth itself.*
>
> (2) *There is an element of circularity in estimating g by a forecast of b and ROE for the utility being regulated, since ROE is determined in large part by regulation. To estimate what ROE resides in the minds of investors is equivalent to estimating the market's assessment of the outcome of regulatory hearings.* Expected ROE is exactly what regulatory commissions set in determining an allowed rate of return. In other words, the method requires an estimate of ROE before it can even be implemented. *Common sense would dictate the inconsistency of a return on equity recommendation that is different than the expected ROE that the method assumes the utility will earn forever.*
>
> For example, using an expected return on equity of 11% to determine the growth rate and using that same growth rate to recommend a return on equity of 9% is inconsistent. *It is not reasonable to assume that this regulated utility company is expected to earn 11% forever, but estimate a 9% return on equity. The only way this utility can earn 11% is that rates be set by the regulator so that the utility will in fact earn 11%....*
>
> (3) The empirical finance literature discussed earlier demonstrates that the sustainable growth method of determining growth is not as significantly correlated to measures of value, such as stock price and price/earnings ratios, as other historical growth measures or analysts' growth forecasts. *Other proxies for growth, such as*

historical growth rates and analysts' growth forecasts, outperform retention growth estimates. (emphasis added)[133]

The circular nature of the sustainable growth DCF is illustrated in the following steps:

1. The sustainable growth rate relies on an expected ROE on book common equity;
2. That expected ROE on book common equity is then used in a DCF analysis to establish an ROE cost rate related to the market value of the common stock; and
3. That market-related ROE, if authorized as the allowed ROE in a regulatory proceeding, becomes the expected ROE on book common equity.

Put simply, the estimated ROEs Mr. Gorman used to derive his sustainable growth rate become the regulatory outcome of this proceeding, even as those ROEs are themselves based on regulatory outcomes.

Q. DO YOU HAVE ANY OTHER CONCERNS WITH THE USE OF THE SUSTAINABLE GROWTH RATE AS A MEASURE OF LONG-TERM GROWTH?

A. Yes. The sustainable growth rate assumes increasing retention ratios necessarily are associated with increasing future growth. The underlying premise is that future earnings will increase as the retention ratio increases. That is, if future growth is modeled as "b x r" (where "b" is the retention ratio and "r" is the earned return on book equity), growth will increase as "b" increases. There are several reasons, however, why that may not be the case. Consequently, it is appropriate to determine whether the data supports the assumption that higher earnings retention ratios necessarily are associated with higher future earnings growth rates.

[133] Morin, at 383-384.

Q. DOES INDEPENDENT RESEARCH SUPPORT THE FINDING THAT FUTURE EARNINGS AND THE RETENTION RATIO ARE NOT POSITIVELY RELATED?

A. Yes. In 2006, for example, two articles in Financial Analysts Journal addressed the theory that high dividend payouts (i.e., low retention ratios) are associated with low future earnings growth.[134] Both articles cite a 2003 study by Arnott and Asness,[135] who found that over the course of 130 years of data, future earnings growth is associated with high, rather than low, payout ratios.[136] In essence, the findings of all three studies found that there is a negative, not a positive, relationship between the two.

Q. DID YOU PERFORM ANY ANALYSES TO TEST THAT ASSUMPTION?

A. Yes, I did. Using EPS and DPS data from *Value Line*, I calculated the historical dividend payout ratio, retention ratio, and subsequent five-year average earnings growth rate for each company used in Mr. Gorman's combined proxy group. I then performed a regression analysis in which the dependent variable was the five-year earnings growth rate, and the explanatory variable was the earnings retention ratio. The purpose of that analysis was to determine whether the data empirically supports the assumption that higher retention ratios necessarily produce higher earnings growth rates.

Q. WHAT DID THAT ANALYSIS REVEAL?

A. As shown in Rebuttal Exhibit DWD-14 and Table 11, below, there was a statistically significant negative relationship between the five-year average earnings growth rate and

134 *See,* Ping Zhou, William Ruland, *Dividend Payout and Future Earnings Growth*, Financial Analysts Journal, Vol. 62, No. 3, 2006. *See also,* Owain ap Gwilym, James Seaton, Karina Suddason, Stephen Thomas, *International Evidence on the Payout Ratio, Earnings, Dividends and Returns*, Financial Analysts Journal, Vol. 62, No. 7, 2006.

135 *See,* Robert Arnott, Clifford Asness, *Surprise: Higher Dividends = Higher Earnings Growth*, Financial Analysts Journal, Vol. 59, No. 1, January/February 2003.

136 Because the payout ratio is the inverse of the retention ratio, the authors found that future earnings growth is negatively related to the retention ratio.

the earnings retention ratio. That is, based on *Value Line* data, earnings growth actually decreased as the retention ratio increased. Those findings clearly call into question Mr. Gorman's use of the sustainable growth rate as a proxy for the long-term growth rate in his analysis.

Table 11: Retention Ratio / Earnings Growth[137]

	Coefficient	Standard Error	t-Statistic
Intercept	0.154	0.011	14.575
Retention Ratio	-0.270	0.021	-12.786

Q. DO THOSE RESULTS MAKE PRACTICAL SENSE?

A. Yes, they do. As a practical matter, dividend-paying companies (such as utilities) are reluctant to reduce dividends, given the often-disproportionate stock price reaction. Consequently, a higher than expected dividend increase may signal management's confidence in higher future earnings and cash flow. That is, a near-term reduction in the retention ratio supporting a higher dividend increase may provide information or "signaling" content regarding future growth prospects.[138] In view of the foregoing, Mr. Gorman's use of a sustainable growth rate DCF analysis is an exercise in circularity which ignores the basic principle of rate base/rate of return regulation.

Q. IS MR. GORMAN'S MULTI-STAGE DCF MODEL A REASONABLE APPROACH TO ESTIMATING THE COMPANIES' ROE?

A. No, it is not. The multi-stage DCF model and its growth rates reflect the company/industry lifecycle, which is typically described in three stages: (1) the growth stage, which is characterized by rapidly expanding sales, profits, and earnings. In the growth stage, dividend payout ratios are low in order to grow the firm; (2) the transition stage, which is

137 Rebuttal Exhibit DWD-14.

138 *See,* Eugene F. Brigham, Louis C. Gapenski, Financial Management, Theory and Practice, Seventh Ed., 1994, at 618.

characterized by slower growth in sales, profits, and earnings. In the transition stage, dividend payout ratios increase, as their need for exponential growth diminishes; and (3) the maturity (steady-state) stage, which is characterized by limited, slightly attractive investment opportunities, and steady earnings growth, dividend payout ratios, and returns on equity.

The economics of the public utility business indicate that the industry is in the steady-state, or constant-growth stage of a multi-stage DCF model. Mr. Gorman should not apply a multi-stage DCF model, as it is not applicable to utilities, and instead rely exclusively on the three- to five-year projected growth rates for each company. He also should not apply the GDP growth rate to his company-specific growth rate, because it is not a company-specific growth rate, nor is it an upper bound for growth.

Q. ARE THERE EXAMPLES IN BASIC FINANCE TEXTS THAT SUPPORT YOUR POSITION?

A. Yes. For example, in *Investments*, life cycles and multi-stage growth models are discussed:

> As useful as the constant-growth DDM (dividend discount model) formula is, you need to remember that it is based on a simplifying assumption, namely, that the dividend growth rate will be constant forever. In fact, firms typically pass through life cycles with very different dividend profiles in different phases. In early years, there are ample opportunities for profitable reinvestment in the company. Payout ratios are low, and growth is correspondingly rapid. In later years, the firm matures, production capacity is sufficient to meet market demand, competitors enter the market, and attractive opportunities for reinvestment may become harder to find. In this mature phase, the firm may choose to increase the dividend payout ratio, rather than retain earnings. The dividend level increases, but thereafter it grows at a slower pace because the company has fewer growth opportunities.
>
> Table 18.2 illustrates this pattern. It gives *Value Line*'s forecasts of return on assets, dividend payout ratio, and 3-year growth in earnings per share for a sample of the firms in the computer software industry versus those of east coast electric utilities…
>
> By and large, the software firms have attractive investment opportunities.

> The median return on assets of these firms is forecast to be 19.5%, and the firms have responded with high plowback ratios. Most of these firms pay no dividends at all. The high return on assets and high plowback result in rapid growth. The median growth rate of earnings per share in this group is projected at 17.6%.
>
> In contrast, the electric utilities are *more representative of mature firms*. Their median return on assets is lower, 6.5%; dividend payout is higher, 68%; and median growth is lower, 4.6%.
>
> ***
>
> To value companies with temporarily high growth, analysts use a multistage version of the dividend discount model. Dividends in the early high-growth period are forecast and their combined present value is calculated. Then, once the firm is projected to settle down to *a steady-growth phase, the constant-growth DDM is applied to value the remaining stream of dividends*.[139] (Clarification and emphasis added)

The economics of the public utility business indicate that the industry is in the steady-state, or constant-growth stage of a multi-stage DCF, which would mean that the three- to five-year projected growth rates for each company would be the "steady-state" or terminal growth rate appropriate for the DCF model for utility companies, not the GDP growth rate, which is not a company-specific growth rate, nor is it an upward bound for growth.

Q. WHY IS LONG-TERM GROWTH IN GDP NOT AN UPPER LIMIT FOR GROWTH, AS MR. GORMAN CONTENDS?

A. First, GDP is not a market measure – rather it is a measure of the value of the total output of goods and services, excluding inflation, in an economy. While I understand that EPS growth is also not a market measure, it is well established in the financial literature that projected growth in EPS is the superior measure of dividend growth in a DCF model.[140]

[139] Z. Bodie, A. Kane, and A. J. Marcus, *Investments*, 7th Edition, McGraw-Hill Irwin, 2008, at 616-617.

[140] Harris, Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return, Financial Management, Spring 1986; Christofi, Christofi, Lori and Moliver, Evaluating Common Stocks Using *Value Line*'s Projected Cash Flows and Implied Growth Rate, Journal of Investing, Spring 1999; Harris and Marston, Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts, Financial Management,

Furthermore, GDP is simply the sum of all private industry and government output in the United States, and its growth rate is simply an average of the value of those industries. To illustrate, Rebuttal Exhibit DWD-15 presents the compound growth rate of the industries that comprise GDP from 1947 to 2024. Of the 15 industries represented, seven industries, including utilities, grew faster than the overall GDP, and eight industries grew slower than the overall GDP.[141] Given that utilities have grown faster than the overall GDP, I disagree with Mr. Gorman's suggestion that "utilities cannot indefinitely sustain a growth rate in excess of the economy in which they sell services."[142]

Q. DID YOU CONDUCT ANOTHER ANALYSIS THAT CALCULATES THE AMOUNT OF TIME IT WOULD TAKE AN INDUSTRY TO OVERTAKE THE ENTIRE ECONOMY?

A. Yes. I examined the value added by industry from 1947 to 2024 in Rebuttal Exhibit DWD-15 and used the compound annual growth rates for the highest growth rate industry (Educational Services, Healthcare, and Social Assistance, 8.55% / year) to see when that industry would comprise the entire economy. In the year 2300, or 353 years from the 1947 starting point, the industry would comprise over 50% of GDP; and in the year 7963, 6,016 years after the 1947 starting point, the industry would comprise 100% of GDP.[143] Not only have individual companies or industries consistently grown at rates beyond GDP growth,

Summer 1992; and Vander Weide and Carleton, Investor Growth Expectations: Analysts vs. History, The Journal of Portfolio Management, Spring 1988.

141 Source of Information: Bureau of Economic Analysis.

142 Gorman Direct Testimony, at 43.

143 To put the amount of time that will take these two milestones to happen in perspective, approximately 300 years ago, in the year 1719, France and Spain were at war in New France (now Louisiana), and approximately 3,476 years ago, in the year 1457 BC, the first recorded battle in military history, the Battle of Megiddo, was waged between the Egyptians, led by Pharaoh Thutmose III against Kadesh, Canaanite, Mitanni, and Amurru forces. *See also* Zager and Evans, *In the Year 2525*, *on* 2525 (Exordium & Terminus) (RCA 1968).

but they have done so without overtaking the entire economy. While Mr. Gorman's argument is technically correct, it is unrealistic at best.

Q. WHAT ARE YOUR CONCLUSIONS AS THEY RELATE TO MR. GORMAN'S DCF ANALYSIS?

A. First, the sustainable growth model is inconsistent with both academic and empirical findings and is also circular in nature. Second, it is inappropriate to rely on the multi-stage DCF model given that utilities are in the steady state growth stage. Excluding the results of Mr. Gorman's sustainable growth and multi-stage DCF models produces a range of 10.41% to 11.45%,[144] which are 121 to 225 basis points above his indicated DCF result of 9.20%. Those results overlap with my recommended range.

C. Risk Premium Model

Q. PLEASE BRIEFLY DESCRIBE MR. GORMAN'S RPM.

A. First, Mr. Gorman defines the "Risk Premium" as the difference between average annual authorized equity returns for natural gas utilities and a measure of long-term interest rates each year from 1986 through March 2025.[145] Mr. Gorman's first approach to estimating the RPM looks to the 30-year Treasury yield, and his second considers the average A-rated utility bond yield.[146] In each case, Mr. Gorman establishes his risk premium estimate by reference to five-year and ten-year rolling averages.

Mr. Gorman looks to 40 years of returns, arguing "a relatively long period of time where stock valuations reflect premiums to book value indicates that the authorized returns on equity and the corresponding equity risk premiums were supportive of investors' return expectations."[147] Mr. Gorman estimates long-term average risk premium estimates of

144 Gorman Direct Testimony, Exhibit MPG-5.
145 Gorman Direct Testimony, at 50; Exhibits MPG-12 and MPG-13.
146 Gorman Direct Testimony, at 50.
147 Gorman Direct Testimony, at 52.

5.65% based on his Treasury bond analysis, and 4.30% based on his A-rated utility bond analysis.[148] Mr. Gorman then multiplies those risk premium estimates by 0.90 "to be reasonable based on market evidence," which produces estimates of 5.10% based on his Treasury bond analysis, and 3.90% based on his A-rated utility bond analysis.[149]

Combined with a 4.60% projected 30-Year Treasury yield, and an A-rated utility bond yield estimate of 5.96%, Mr. Gorman's RPM produced results ranging from 9.70% to 9.86%, which he rounds to 9.70% to 9.85%.[150]

Q. DO YOU HAVE SPECIFIC CONCERNS WITH MR. GORMAN'S APPLICATION OF THE RPM?

A. Yes. I have four concerns with Mr. Gorman's application of the RPM, namely: (1) the use of the 1986 through March 2025 time period; (2) Mr. Gorman's method and recommendation ignore an important relationship revealed by his own data, i.e., that there is an inverse relationship between ERPs and interest rates (whether measured by U.S. Treasury bonds or public utility bond yields); (3) his mismatched application of projected Treasury bond yields and current utility bond yields; and (4) his downward adjustment to the ERP.

Q. WHAT ARE YOUR CONCERNS WITH MR. GORMAN'S USE OF THE 1986 THROUGH MARCH 2025 TIME PERIOD TO DETERMINE AN ERP?

A. Mr. Gorman selected the period 1986 through March 2025 "because public utility stocks have consistently traded at a premium to book value during that period."[151] He concludes that "[o]ver this period, an analyst can infer that authorized returns on equity were

[148] Gorman Direct Testimony, at 56-57.
[149] Gorman Direct Testimony, at 56-57.
[150] Gorman Direct Testimony, at 57.
[151] Gorman Direct Testimony, at 50.

sufficient to support market prices that at least exceeded book value."[152] Mr. Gorman is mistaken. Market values can diverge from book values for a myriad of reasons including, but not limited to, EPS and DPS expectations, merger/acquisition expectations, interest rates, etc. As noted by Phillips:

> Many question the assumption that market price should equal book value, believing that 'the earnings of utilities should be sufficiently high to achieve market-to-book ratios which are consistent with those prevailing for stocks of unregulated companies.[153]

As discussed by Bonbright, it is very clear that the market prices of public utility common stocks are influenced by factors which are beyond the direct influences of the regulatory process:

> In the first place, commissions cannot forecast, except within wide limits, the effect their rate orders will have on the market prices of the stocks of the companies they regulate. In the second place, *whatever the initial market prices may be, they are sure to change not only with the changing prospects for earnings, but with the changing outlook of an inherently volatile stock market.* In short, market prices are beyond the control, though not beyond the influence of rate regulation. Moreover, even if a commission did possess the power of control, any attempt to exercise it ... would result in harmful, uneconomic shifts in public utility rate levels (emphasis added).[154]

Kroll's SBBI - 2023 also makes it clear that the arbitrary selection of historical periods is highly suspect and unlikely to be representative of long-term trends in market data. For example, SBBI - 2023 states:

> The estimate of the equity risk premium depends on the length of the data series studied. A proper estimate of the equity risk premium requires a data series long enough to give a reliable average without being unduly influenced by very good and very poor short-term returns. When calculated using a long data series, the historical equity risk premium is relatively stable. Furthermore, because an average of the realized equity risk premium, is quite volatile when calculated using a short history, using a

[152] Gorman Direct Testimony, at 51.
[153] Charles F. Phillips, The Regulation of Public Utilities, Public Utility Reports, Inc., 1993, at 395.
[154] James C. Bonbright, Albert L. Danielsen and David R. Kamerschen, Principles of Public Utility Rates (Public Utilities Reports, Inc., 1988), at 334.

long series makes it less likely that the analyst can justify any number he or she wants.[155]

The academic literature demonstrates and confirms that while regulation is a substitute for marketplace competition, it has an effect on, but no direct control over market prices, and hence market-to-book ("M/B") ratios of regulated utilities. The academic literature also shows that a subset of data could be subject to data manipulation. Because of this, no valid conclusion of ERPs can be drawn for the 1986 through March 2025 period.

Q. IS THERE A DIRECT RELATIONSHIP BETWEEN THE M/B RATIOS OF UNREGULATED COMPANIES AND THEIR EARNED RATES OF RETURN ON BOOK COMMON EQUITY?

A. No. Since regulation acts as a surrogate for competition, one must look to the competitive environment for evidence of a direct relationship between M/B ratios and earned returns on common equity. To determine if Mr. Gorman's implicit assumption of such a direct relationship has any merit, I observed the M/B ratios and the earned returns on common equity of the S&P Industrial Index, and the S&P 500 Composite Index, over a long period of time. On Rebuttal Exhibit DWD-16, I have shown the M/B ratios, rates of return on book common equity (earnings / book ratios), annual inflation rates, and the earnings / book ratios net of inflation (real rate of earnings) annually for the years 1947 through 2024. In each year, the M/B ratios of the S&P Industrial Index equaled or exceeded 1.00 times (or 100%). In 1949, the only year in which the M/B ratio was 1.00, the real rate of earnings on book equity, adjusted for deflation, was 18.1% (16.3% + 1.8%). In contrast, in 1961, when the S&P Industrial Index experienced an M/B ratio of 2.01 times, the real rate of earnings on book equity for the S&P Industrial Index was only 9.1% (9.8%-0.7%). In

[155] SBBI - 2023, at 193-194.

1997, the M/B ratio for the Index was 5.88 times, while the average real rate of earnings on book equity was 22.9% (24.6%-1.7%).

This analysis clearly demonstrates that competitive, unregulated companies have never sold below book value, on average, and have sold at book value in only one year since 1947. Because this lack of a relationship between earnings / book ratios and M/B ratios covers over a 75-year period, 1947 through 2025, it cannot be validly argued that going forward a relationship would exist between earnings / book ratios and M/B ratios. The analysis shown on Rebuttal Exhibit DWD-16, coupled with the supportive academic literature, demonstrate the following: (1) that while regulation is a substitute for marketplace competition, it can influence, but not directly control market prices, and hence, M/B ratios; and (2) that the rates of return investors expect to achieve, and which influence their willingness to pay market prices well in excess of book values have no meaningful, direct relationship to rates of earnings on book equity. Because of this, no valid conclusion of ERPs can be drawn for the 1986 through March 2025 period because of M/B ratios in excess of one.

Q. DOES MR. GORMAN'S RPM ANALYSIS IGNORE THE INVERSE RELATIONSHIP BETWEEN ERPS AND INTEREST RATES?

A. Yes. Reviewing the data in Exhibits MPG-12 and MPG-13, I discovered that the ERP as presented by Mr. Gorman tends to move inversely with changes in interest rates. In other words, as interest rates fall, the ERP increases. Several academic studies support my findings. In Brigham, Shome, and Vinson's article, *The Risk Premium Approach to Measuring a Utility's Cost of Equity*, the authors explain that "with 'proper' regulation, utility stocks would provide a better hedge against unanticipated inflation than would

bonds."[156] In that case, if concerns regarding future inflation increase, the perceived risk of bonds would increase more than the perceived risk of equity. That is, the return required on equity would increase less than the return required on bonds, thereby decreasing the ERP.

The relationship between interest rates, inflation, and expected returns also was explained in a 1985 Financial Analysts Journal article:

> For securities such as bonds, whose cash flows (coupon payments) are fixed, an unanticipated increase in inflation results in a decline in price. The decline in price, combined with a fixed coupon, raises the expected return and compensates for the higher rate of inflation.
>
> ***
>
> For securities such as common stocks, whose cash flows (dividends) are flexible, the price of the security does not necessarily change in response to unanticipated inflation. Stock dividends may rise to offset an increase in the rate of inflation, precluding any need for price adjustment.[157]

Other published research has shown the ERP is not constant but varies inversely with interest rates. Harris and Marston found the ERP to change inversely to changes in interest rates, concluding that "…the notion of a constant risk premium over time is not an adequate explanation of pricing in equity versus debt markets."[158] Similarly, a study by Maddox, Pippert, and Sullivan found their results "indicate a statistically significant inverse relationship between interest rates and utility equity risk premiums."[159] My approach also is similar to the method discussed by Morin.[160]

156 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 43.

157 James L. Farrell Jr., *The Dividend Discount Model: A Primer*, Financial Analysts Journal, November-December 1985, at 23.

158 Robert S. Harris and Felicia C. Marston, *The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts*, Journal of Applied Finance, Vol. 11, No. 1, 2001, at 11-12, 14. The authors also found credit spreads are positively related to the ERP.

159 Farris M. Maddox, Donna T. Pippert, and Rodney N. Sullivan, *An Empirical Study of Ex Ante Risk Premiums for the Electric Utility Industry*, Financial Management, Vol. 24, No. 3, Autumn 1995 at 95.

160 Morin, at 144-147.

Q. DOES MR. GORMAN'S DATA SHOW THE INVERSE RELATIONSHIP BETWEEN ERPS AND INTEREST RATES?

A. Yes. As shown on Charts 5 through 8 below, based on empirical analyses of the data presented in Exhibits MPG-12 and MPG-13, ERPs have moved inversely with changes in U.S. Treasury bond yields over the period 1986 through March 2025. This relationship is statistically significant at over the 95% confidence level.

Chart 5: Empirical Analysis of Exhibit MPG-12 – Electric

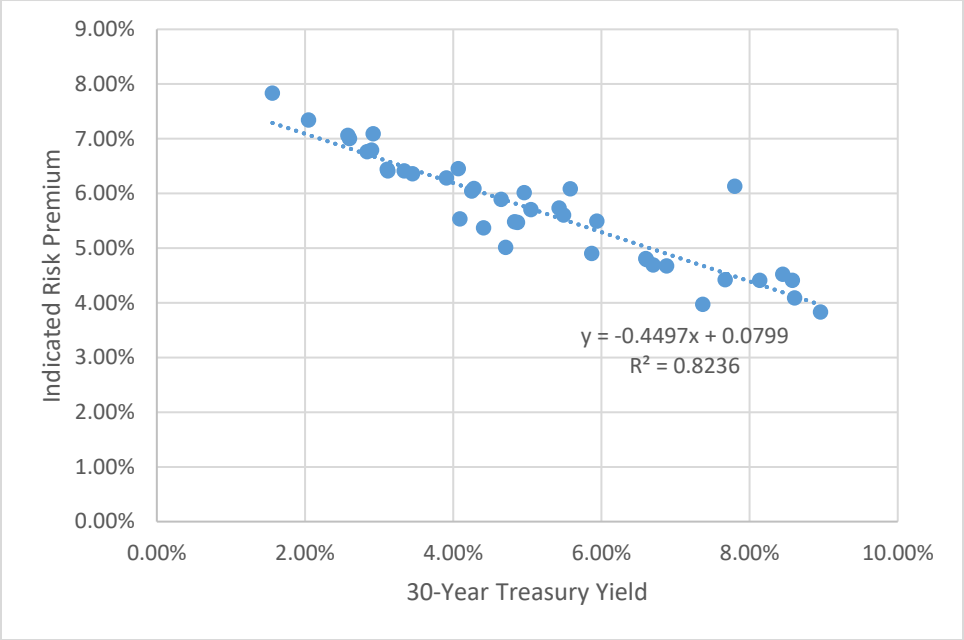


Chart 6: Empirical Analysis of Exhibit MPG-12 – Natural Gas

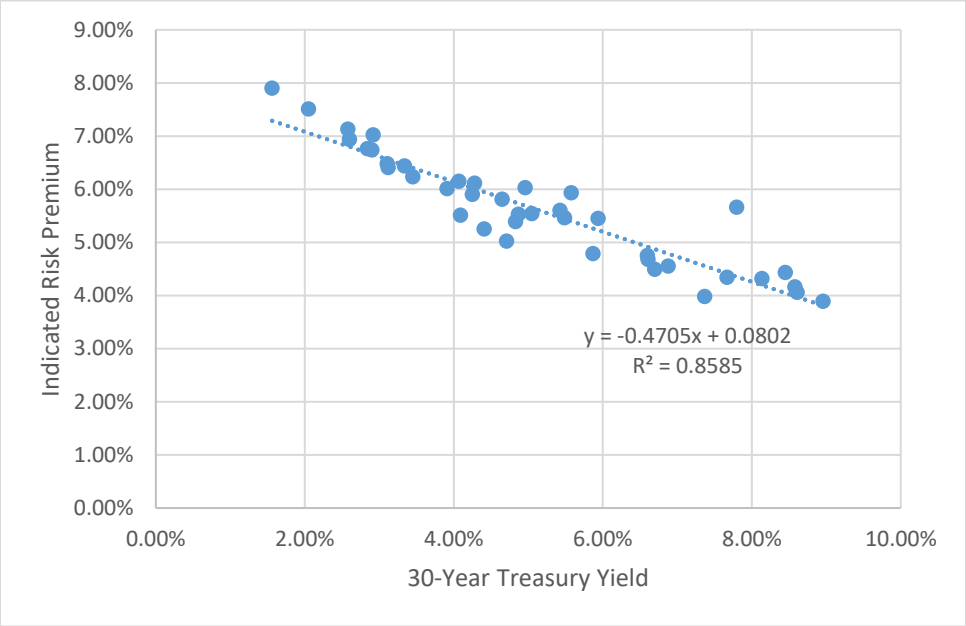


Chart 7: Empirical Analysis of Exhibit MPG-13 – Electric

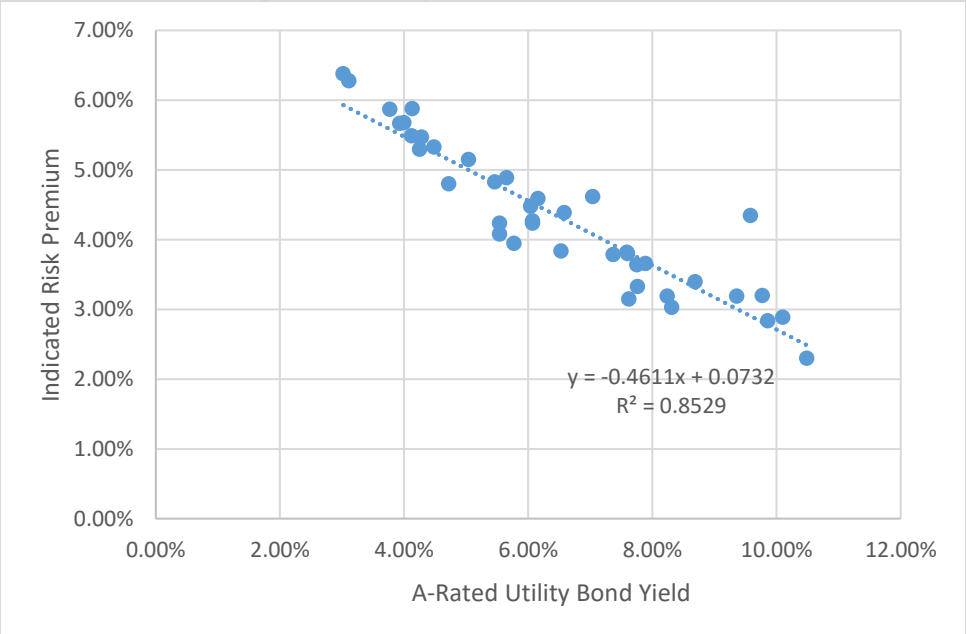
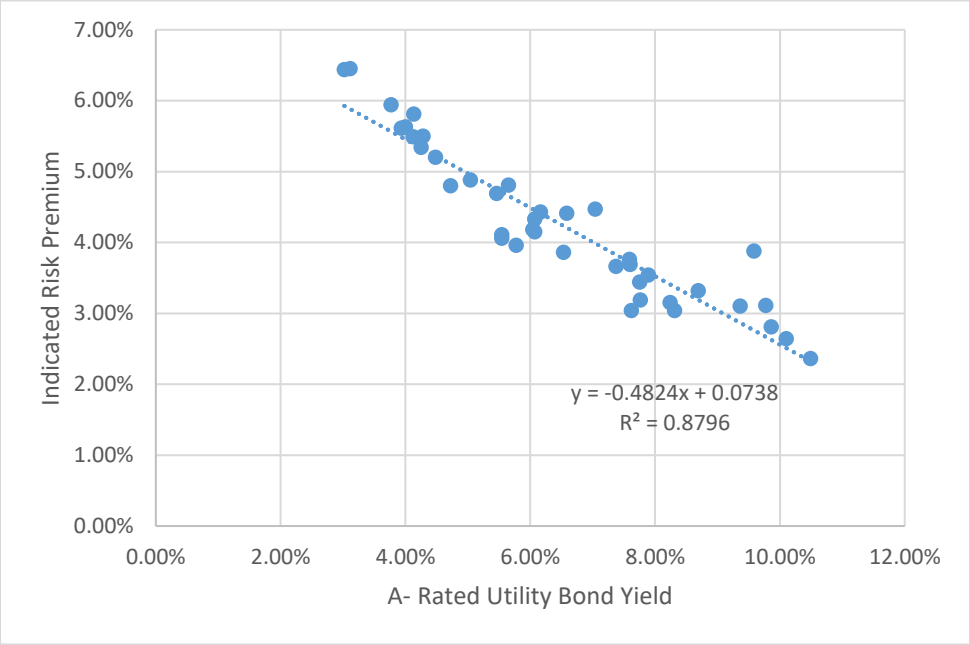


Chart 8: Empirical Analysis of Exhibit MPG-13 – Natural Gas



Q. MR. GORMAN USED CURRENT A-RATED PUBLIC UTILITY BOND YIELDS IN HIS RPM ANALYSIS. PLEASE COMMENT.

A. Mr. Gorman's use of current A-rated public utility bond yields is inconsistent with his entire return on common equity analysis. For example, Mr. Gorman used an expected risk-free rate in both his CAPM analysis and his U.S. Treasury bond-based ERP analysis, analyst projections of EPS and sustainable growth in his constant growth DCF model applications, and projected inflation in his derivation of his projected market ERP. For internal consistency in his analyses, and to be theoretically correct as well as consistent with the prospective nature of both ratemaking and the cost of capital, a projected A-rated public utility bond yield should be used in Mr. Gorman's RPM analyses.

Q. IS MR. GORMAN'S ADJUSTMENT TO HIS DERIVED ERP REASONABLE?

A. No, it is not. The benefit of considering a long-term historical dataset is to understand the relationship between authorized returns and interest rates under various market conditions, which would include widening and tightening credit spreads. Mr. Gorman's arbitrary

adjustment to his ERP essentially sets the ERP approximately equal to his 2025 observation of the ERP. That is, the 5.10% ERP on which Mr. Gorman relies is only eight to nine basis points above the 2025 observed ERPs for natural gas and electric utilities, respectively, based on his analysis using Treasury bond yields. The 3.90% ERP on which Mr. Gorman relies is only five to six basis points below the 2025 observed ERPs for natural gas and electric utilities, respectively, based on his analysis using utility bond yields. Those observations for 2025 only reflect the period January through March. As such, although Mr. Gorman performs an historical analysis of authorized returns and interest rates to estimate the ERP, his arbitrary adjustment to reflect current market conditions is applied to align the ERP with a single observation that represents only three months of data. As noted above, the use of an average ERP understates the ROE because it does not reflect the inverse relationship between interest rates and the ERP. Mr. Gorman's arbitrary adjustment further removes his RPM results from a reasonable estimate of the Companies' ROE.

Q. PLEASE SUMMARIZE THE RANGE OF RPM INDICATED COMMON EQUITY COST RATES AFTER CORRECTING MR. GORMAN'S RPM ANALYSIS.

A. As shown in Rebuttal Exhibit DWD-17, applying the projected 30-year Treasury bond yield of 4.60%, and the projected A2-rated public bond yield of 5.71% to the regression equations in Charts 5 through 8 produces results of 10.46% and 10.34%, respectively for LGE's natural gas operations, and 10.52% and 10.40%, respectively, for KU and LGE's electric operations. Although I do not agree with Mr. Gorman's basic RPM, the corrected RPM results based on a regression analysis of his data are far more appropriate than his conclusion of an indicated return of 9.75%.

D. Capital Asset Pricing Model

Q. PLEASE BRIEFLY SUMMARIZE MR. GORMAN'S CAPM ANALYSIS AND RESULTS.

A. Mr. Gorman calculates a single CAPM result using the projected 30-year Treasury bond yield of 4.60% from *Blue Chip Financial Forecasts*, a MRP of 6.82% based on an expected market return of 11.42% calculated using data from Morningstar Direct and a current beta of 0.77, which is the average of the average betas for his electric and combined proxy groups. Those assumptions produce a CAPM result of 9.85%.[161]

Q. DO YOU HAVE ANY INITIAL OBSERVATIONS RELATED TO MR. GORMAN'S CAPM ANALYSIS?

A. Yes, I do. The average betas reported in Mr. Gorman's CAPM analysis are 0.81, 0.76, and 0.78 for his natural gas, electric, and combined proxy groups, respectively. Mr. Gorman has not explained why he relies on an average beta based on his electric and combined proxy groups. In his DCF analysis, Mr. Gorman presents the results of each of his proxy groups individually. Had he similarly produced results for each of his proxy groups in his CAPM analysis, his results would be 10.12% for his natural gas proxy group, 9.78% for his electric proxy group, and 9.92% for his combined proxy group.

Q. DO YOU HAVE ANY CONCERNS WITH MR. GORMAN'S CAPM?

A. While I generally agree with the inputs to Mr. Gorman's CAPM, I do not agree with his exclusion of an ECAPM analysis.

Q. WHY DOES MR. GORMAN NOT CONSIDER AN ECAPM ANALYSIS?

A. Mr. Gorman believes that the ECAPM: (1) is not generally accepted by regulatory commissions; and (2) the use of adjusted betas is inappropriate in the ECAPM.

[161] Gorman Direct Testimony, at 59, 61-62.

Q. HAVE OTHER JURISDICTIONS CONSIDERED THE ECAPM?

A. Yes, as discussed in my response to Mr. Baudino, it has been accepted in Alaska, Minnesota, Mississippi, Nevada, New York, and Virginia.[162]

Q. WHAT IS YOUR RESPONSE TO MR. GORMAN'S CONCERN WITH THE USE OF ADJUSTED BETAS IN THE ECAPM ANALYSIS?

A. Mr. Gorman seems to believe that using adjusted betas in an ECAPM analysis is inappropriate.[163] 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 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.

* * *

[162] The Regulatory Commission of Alaska, Docket P-97-7, Order Rejecting 1997, 1998, 1999 and 2000 Filed TAPS Rates; Setting Just and Reasonable Rates; Requiring Refunds and Filings; and Outlining Phase II Issues, November 27, 2002, at 146; Minnesota Public Utilities Commission, MPUC Docket No. G011/GR-15-736, In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota, Findings of Fact, Conclusions of Law, and Recommendation, August 19, 2016, at 29; Mississippi Public Service Commission, Docket No. 01-UN-0548, Notice of Intent of Mississippi Power Company to Change Rates for Electric Service in its Certificated Areas in the Twenty-Three Counties of Southeast Mississippi, Final Order, December 3, 2001, at 19; Public Utilities Commission of Nevada, Docket No. 20-02023, Application of Southwest Gas Corporation for authority to increase its retail natural gas utility service rates for Southern and Northern Nevada, Order, September 23, 2020, at 35; New York Public Service Commission, Case 16-G-0058, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of KeySpan Gas East Corporation d/b/a National Grid for Gas Service, Order Adopting Terms of Joint Proposal and Establishing Gas Rate Plans, December 16, 2016, at 32; In the Matter of Application of Virginia Electric and Power Company, d/b/a Dominion Energy North Carolina for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina, Docket No. E-22, Sub 562 Order Accepting Public Staff Stipulation in Part, Accepting CIGFUR Stipulation, Deciding Contested Issues, and Granting Partial Rate Increase, February 24, 2020, at 40.

[163] Gorman Direct Testimony, at 94-97.

> 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.[164]

Moreover, the slope of the SML should not be confused with beta, as discussed previously.

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, The Brattle Group's ("Brattle") 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.[165]

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 nor inconsistent with the financial literature, nor is it a duplicative adjustment.

[164] Morin, at 223-224.

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

Q. WHAT ARE MR. GORMAN'S RESULTS IF HE INCLUDED AN ECAPM ANALYSIS?

A. Relying on Mr. Gorman's inputs, his result using the ECAPM is 10.24%.[166] The individual ECAPM results for his natural gas, electric, and combined proxy groups are 10.45%,[167] 10.19%,[168] and 10.29%,[169] respectively.

E. Adjustments to the Common Equity Cost Rate

Q. DOES MR. GORMAN CONSIDER A SIZE ADJUSTMENT?

A. No, he does not. Mr. Gorman does not consider a size adjustment for two reasons: (1) the Companies are subsidiaries of PPL and as such, PPL's size should be considered, not the Companies'; and (2) Mr. Gorman claims that a size adjustment is not warranted because the betas associated with the deciles, as calculated by Kroll, are higher than those for the proxy companies.[170]

Q. SINCE THE COMPANIES ARE SUBSIDIARIES OF PPL, WHY IS THE SIZE OF PPL NOT MORE APPROPRIATE TO USE WHEN DETERMINING THE SIZE ADJUSTMENT?

A. As discussed in my Direct Testimony, the return derived in the proceeding will not apply to PPL's operations as a whole, but only to the Companies' operations in Kentucky.[171] As such, KU's electric and LGE's electric and natural gas operations in Kentucky should be considered stand-alone companies.

166 10.24% = (6.82% * 0.25) + ((6.82% * 0.77) * 0.75) + 4.60%
167 10.45% = (6.82% * 0.25) + ((6.82% * 0.81) * 0.85) + 4.60%
168 10.19% = (6.82% * 0.25) + ((6.82% * 0.76) * 0.75) + 4.60%
169 10.29% = (6.82% * 0.25) + ((6.82% * 0.78) * 0.75) + 4.60%
170 Gorman Direct Testimony, at 75-77.
171 D'Ascendis Direct Testimony, at 53-55.

Q. WHY SHOULD THE COMMISSION CONSIDER THE COMPANIES AS STAND-ALONE COMPANIES?

A. As noted on pages 53 through 55 of my Direct Testimony, the Commission should consider the Companies as stand-alone companies because it is the Companies' rate base to which the overall rates of return set forth in this proceeding will be applied. To do otherwise would be discriminatory, confiscatory, and inaccurate. It is also a basic financial precept that the use of the funds invested gives rise to the risk of the investment.

Q. HAVE YOU PERFORMED STUDIES LINKING SIZE AND RISK FOR UTILITY COMPANIES?

A. Yes, I have. As noted on pages 55 through 56 of my Direct Testimony and in my response to Mr. Baudino, there is empirical support for the existence of a relationship between size and risk for utility companies. These studies were not refuted by any witness in this proceeding. As such, the fact that the betas associated with the Kroll size deciles are higher than those of the proxy companies does not negate the finding that smaller companies (including utilities) face higher levels of risk relative to larger companies.

Q. DOES MR. GORMAN CONSIDER A FLOTATION COST ADJUSTMENT?

A. No, he does not. Mr. Gorman believes that a flotation cost adjustment is not warranted because my flotation cost adjustment is not "based on the utilities' actual and verifiable flotation expenses."[172] As discussed in my Direct Testimony, wholly owned subsidiaries such as LGE and KU receive capital from their parents, and provide returns on the capital that roll up to the parent, which is designated to attract and raise capital based on the returns of those subsidiaries.[173] As such, denying recovery of issuance costs would penalize the investors that fund the utility operations.

[172] Gorman Direct Testimony, at 79.
[173] D'Ascendis Direct Testimony, at 7.

F. Capital Structure

Q. PLEASE SUMMARIZE MR. GORMAN'S DIRECT TESTIMONY AS IT RELATES TO THE COMPANIES' CAPITAL STRUCTURE.

A. Although Mr. Gorman accepts the Companies' proposed capital structure, he believes that the level of equity is too high relative to average authorized equity ratios for natural gas and electric utilities. As such, he takes the purported lower financial risk of the Companies into consideration when setting his recommended ROE.[174]

Q. DO YOU AGREE THAT THE COMPANIES HAVE LOWER FINANCIAL RISK DUE TO THE COMPANIES' PROPOSED EQUITY RATIOS?

A. In part. While I agree that it is reasonable to review the capital structures of the proxy companies (as I did in my Direct Testimony), [175] the range of common equity ratios for the Utility Proxy Groups and the operating utilities of the Utility Proxy Groups depict the range of typical or proper equity ratios maintained by comparable risk companies. As shown in both my Direct and Rebuttal Testimonies, LGE's proposed equity ratio is consistent with the equity ratios of the Natural Gas Utility Proxy Group. However, LGE and KU's proposed equity ratio is somewhat above the range of equity ratios of the Electric Utility Proxy Group.[176]

Further, bond ratings can serve as a general measure of a company's overall risk. As noted my Direct Testimony, similar bond ratings / issuer credit ratings reflect, and are representative of, similar combined business and financial risk (i.e., total risk) faced by bond investors.[177]

174 Gorman Direct Testimony, at 24-27.
175 D'Ascendis Direct Testimony, at 17.
176 D'Ascendis Direct Testimony, Exhibit DWD-2; Rebuttal Exhibit DWD-1, at 3-9.
177 D'Ascendis Direct Testimony, at 11.

This means that while specific risks may differ between companies (e.g., leverage), the same or similar bond / credit rating indicates that the combined risks are roughly similar. Given that LGE's credit ratings are A3 (Moody's) and A- (S&P), as compared to the Natural Gas Utility Proxy Group average rating of A3 (Moody's) and A-/BBB+ (S&P), a downward adjustment is not necessary. KU has the same credit ratings from Moody's and S&P as LGE. The Electric Utility Proxy Group's average credit ratings of Baa1 (Moody's) and BBB+ (S&P) are one notch below LGE and KU's credit ratings.

Given those findings, I do not agree with Mr. Gorman's contention that ROE for LGE's natural gas operations should be adjusted downward to reflect a lower level of financial risk. However, I continue to make a downward adjustment to my recommended ROE for LGE and KU's electric operations due to their lower level of financial risk as reflected in the difference in the credit ratings as compared to the Electric Proxy Group.[178]

G. Financial Integrity

Q. PLEASE BRIEFLY SUMMARIZE MR. GORMAN'S ASSESSMENT OF HIS RECOMMENDATION AS IT AFFECTS MEASURES OF THE COMPANY'S FINANCIAL INTEGRITY.

A. Mr. Gorman evaluates the reasonableness of his ROE recommendation by calculating two *pro forma* ratios: Debt to EBITDA[179] and Funds From Operations to Total Debt to determine whether they would fall within S&P's guidance ranges for an investment grade rating. In Schedule MPG-18, Mr. Gorman develops those ratios based on his proposed capital structure. Based on his *pro forma* analysis, Mr. Gorman argues his recommended ROE and capital structure support the Companies' investment grade bond rating.[180] An

[178] Rebuttal Exhibit DWD-1, at 1-2.
[179] Earnings Before Interest, Taxes, Depreciation, and Amortization.
[180] Gorman Direct Testimony, at 66.

important consideration is that Mr. Gorman's analysis fundamentally assumes the Company will earn the entirety of its authorized ROE on a going-forward basis. The ROE set in this proceeding is not a guaranteed return, but an opportunity to earn that return.

Q. ARE CREDIT RATINGS DETERMINED PRINCIPALLY BY THE TYPES OF *PRO FORMA* METRICS MR. GORMAN CALCULATES IN SCHEDULE MPG-18?

A. No. S&P's ratings process considers a range of both quantitative and qualitative data. Cash Flow / Leverage considerations are one element of a broad set of criteria.[181] Unlike Mr. Gorman's *pro forma* analysis, S&P's assessment does not look to a single period of time or assume static relationships among variables. Rather, S&P reviews credit ratios "on a time series basis with a clear forward-looking bias."[182] S&P explains that the time series length depends on a number of qualitative factors, but generally includes two years of historical data, and three years of projections. Further, the ratios depend on "base case" projections considering "current and near-term" economic conditions, industry assumptions, and financial policies. Consequently, even if we assume credit determinations are driven by three *pro forma* metrics, the actual assessment of those metrics is far more complex than Mr. Gorman's analysis suggests.

Q. DO YOU AGREE WITH THE PREMISE OF MR. GORMAN'S ANALYSIS AND CONCLUSIONS?

A. No, I do not. Simply maintaining an "investment grade" rating is an inappropriate standard. According to S&P, only six of the 249 utilities have below investment grade long-term issuer credit ratings.[183] Because the Company must compete for capital with both affiliated

[181] Standard & Poor's Ratings Services, *Corporate Methodology*, November 19, 2013 at 5.
[182] Standard & Poor's Ratings Services, *Corporate Methodology*, November 19, 2013 at 33.
[183] Standard & Poor's Ratings Services, *Issuer Ranking: North American Electric, Gas, And Water Regulated Utilities, Strongest To Weakest*, August 5, 2025.

companies, other utilities, and non-utilities, the Company must have a strong financial profile. Such a profile enables the Company to acquire capital even during constrained and uncertain markets.

Relying on *pro forma* credit metrics to assess the credit implications of any specific ROE or equity ratio is a partial analysis that may lead to incorrect conclusions. That concern arises not only because the credit rating process is complex, but also because a wide range of assumed ROEs and equity ratios produce *pro forma* metrics within the benchmark ranges for a given credit rating. As shown on Rebuttal Exhibit DWD-18, Mr. Gorman's *pro forma* analysis suggests an ROE in the range of -0.60% to 4.08% would produce *pro forma* Debt to EBITDA and Funds from Operations ("FFO") to Total Debt ratios for KU in the "Significant" financial risk range (*see,* Tables 12 and 13 below and Rebuttal Exhibit DWD-18). Similarly, ROEs in the range of -0.40% to 4.35% would produce *pro forma* Debt to EBITDA and FFO to Total Debt ratios for LGE in the "Significant" financial risk range.

That is, based on Mr. Gorman's analysis, the ROEs needed to produce *pro forma* Debt to EBITDA and FFO to Total Debt ratios consistent with the Companies' current "Significant" financial risk rating from S&P[184] are unreasonably low. Clearly, returns as low as -0.60% to 4.35% (KU) and -0.40% to 4.08% (LGE) are unrealistic estimates of the Companies' ROE.

I also applied Mr. Gorman's analysis using the weighted cost of capital and rate base approved in the Companies' most recent rate case.[185] The analysis produces a financial risk rating in the "Intermediate" range, below the Companies' current "Significant" risk rank noted by Mr. Gorman. This further exemplifies the many

[184] Gorman Direct Testimony, at 67.
[185] Docket Nos. 2020-00349 and 2020-00350.

considerations credit rating agencies consider (e.g. regulatory, geographical, operational) which are not reflected by this analysis. Clearly, rating agencies do not rely exclusively on the metrics Mr. Gorman calculates. As such, Mr. Gorman's partial analysis and conclusion that it supports his proposed ROE should be viewed with caution.

Table 12: Mr. Gorman's Financial Integrity Test Using Alternate Assumptions - KU

	Debt / EBITDA	**FFO/ Debt**	
S&P Benchmark Ranges			
"Significant"	3.5x – 4.5x	13% - 23%	
"Intermediate"	2.5x – 3.5x	23% - 35%	
Scenario	**Debt / EBITDA**	**FFO/ Debt**	**Implied Financial Risk Rating**
-0.60% ROE	4.5x	15.1%	Significant
3.35% ROE (Gorman Recommendation)	3.5x	20.2%	Significant
9.50% ROE (Gorman Recommendation)	2.5x	28.2%	Intermediate
10.95% ROE (D'Ascendis Recommendation)	2.4x	30.1%	Intermediate
9.425% ROE and Rate Base (Approved in 2020-00349)	2.7x	27.1%	Intermediate

Table 13: Mr. Gorman's Financial Integrity Test Using Alternate Assumptions - LGE

	Debt / EBITDA	**FFO/ Debt**	
S&P Benchmark Ranges			
"Significant"	3.5x – 4.5x	13% - 23%	
"Intermediate"	2.5x – 3.5x	23% - 35%	
Scenario	**Debt / EBITDA**	**FFO/ Debt**	**Implied Financial Risk Rating**
-0.40% ROE	4.5x	15.2%	Significant
4.35% ROE (Gorman Recommendation)	3.5x	20.3%	Significant
9.50% ROE (Gorman Recommendation)	2.7x	25.9%	Intermediate
10.95% ROE (D'Ascendis Recommendation)	2.6x	27.5%	Intermediate
9.425% ROE and Rate Base (Approved in 2020-00350)	2.8x	26.8%	Intermediate

H. Response to Mr. Gorman's Critiques of Company Testimony

Q. DOES MR. GORMAN HAVE ANY CRITIQUES OF THE ANALYSES PRESENTED IN YOUR DIRECT TESTIMONY?

A. Yes, he does. Mr. Gorman's critiques of my Direct Testimony include: (1) my use of a size adjustment; (2) my flotation cost adjustment; (3) that my DCF results rely on growth rates that exceed projected GDP growth; (4) that the PRPM is based on a mismatch of total returns on stocks and income returns on bonds (5) that the PRPM has not been accepted by the Commission; (6) my reliance on a "simplistic" inverse relationship between ERPs and interest rates to calculate various risk premiums; (7) my calculation of the MRP in the CAPM model; (8) my use of adjusted betas in the ECAPM model; and (9) the use of the Non-Price Regulated Proxy Groups.

I have addressed critiques (1) through (3), (8), and (9) during the course of this Rebuttal Testimony. I will discuss Mr. Gorman's remaining critiques in turn.

Q. PLEASE SUMMARIZE MR. GORMAN'S ARGUMENT AGAINST YOUR USE OF THE PRPM.

A. Mr. Gorman claims that my application of the PRPM is based on a mismatch between total returns on stocks and income-only returns on bonds. In his opinion, doing so ignores the "significant investment return component for bond yields."[186] Mr. Gorman's other concern regarding the PRPM is that the PRPM was rejected in a recent Commission proceeding, and he noted that the Commission was not aware of other commissions that have accepted the model.[187]

[186] Gorman Direct Testimony, at 83.
[187] Gorman Direct Testimony, at 83-84.

Before addressing Mr. Gorman's analytical concerns, I note that in my Direct Testimony, I state that the PRPM was published in the *Journal of Regulatory Economics*,[188] which was based off the work of Robert F. Engle, whose Nobel Prize winning work was published in *Econometrica*,[189] In addition, the model has been thoroughly vetted by the academic community and has not been rebutted since it was initially presented.[190] Also, the PRPM is not trademarked.

Q. DOES THE "MISMATCH" IN YOUR PRPM LEAD TO AN INACCURATE MEASURE OF THE RISK PREMIUM?

A. No, it does not. Kroll, a source relied on by Mr. Gorman, recommends the use of the income return and not the total return on U.S. Treasury securities in deriving an ERP. 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 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.[191]

Also, as shown in SBBI - 2023 on page 145, the standard deviation for the income return on long-term government bonds is 2.6%, which is the lowest (i.e., least risky) measure of all bond returns followed by SBBI. The total return on long-term government

[188] D'Ascendis Direct Testimony, at 26.
[189] Robert F. Engle, David M. Lilien, and Russell P. Robins, "Estimating Time Varying Risk Premia in the Term Structure, The ARCH-M Model", Econometrica, Volume 55, No. 2 (March 1987), at 391-407.
[190] D'Ascendis Direct Testimony, at 27-30.
[191] SBBI - 2023, at 192-193.

bonds also has a standard deviation of 10.3%, 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 return on long-term government bonds as the appropriate proxy of the risk-free rate for use in the calculation of an ERP.

Q. HAS THE PRPM BEEN IMPLICITLY ACCEPTED BY OTHER REGULATORY COMMISSIONS?

A. Yes. As noted in my response to Mr. Baudino and in my Direct Testimony, the PRPM was implicitly accepted by the Public Service Commission of South Carolina and the State of North Carolina Utilities Commission.[192]

Q. IN CRITIQUING YOUR ERP CALCULATION, MR. GORMAN STATES THAT IN TODAY'S MARKETPLACE, INTEREST RATE VOLATILITY IS NOT AS EXTREME AS IT WAS IN THE 1980S.[193] DOES HE PROVIDE ANY EVIDENCE TO SUPPORT THAT CLAIM?

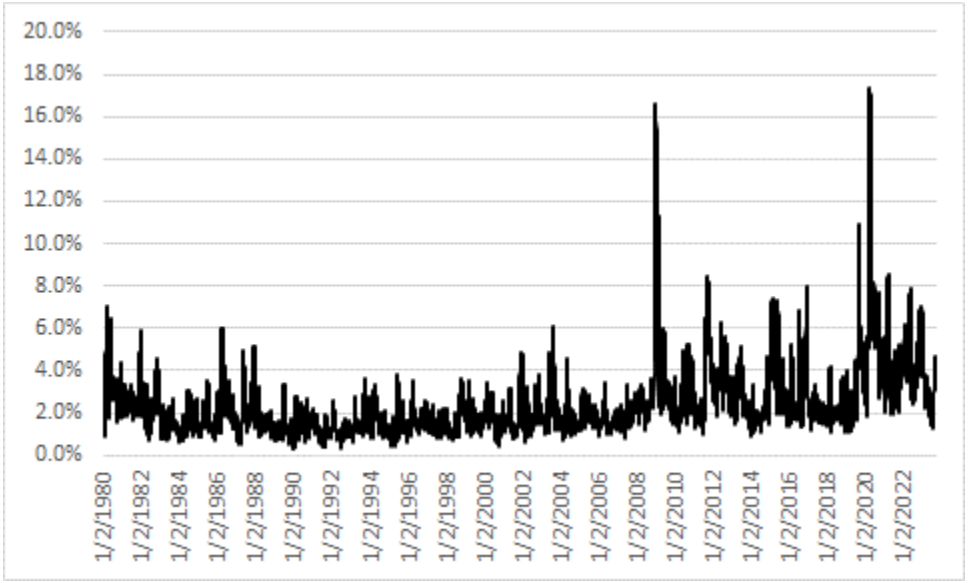
A. No, he does not.

Q. HAVE YOU PERFORMED AN ANALYSIS OF THE VOLATILITY OF INTEREST RATES FROM 1980 TO 2025?

A. Yes, I have. As shown on Chart 9, below, I calculated the 30-day average CoV of the 30-year Treasury bond from January 1, 1980, to August 31, 2025. As shown, interest rates are more volatile now than in the 1980s.

[192] D'Ascendis Direct Testimony, at 29.
[193] Gorman Direct Testimony, at 86.

Chart 9: 30-Day Average Coefficient of Variation of 30-Year Treasury Bonds, January 1, 1980 – September 02, 2025



Q. DOES MR. GORMAN EXPECT AN INVERSE RELATIONSHIP BETWEEN ERPS AND INTEREST RATES WHEN INTEREST RATES ARE VOLATILE?

A. Yes, he does. On page 86 of his direct testimony, Mr. Gorman states:

> In the 1980s, equity risk premiums were inversely related to interest rates, but that was likely attributable to the interest rate volatility that existed at the time. As such, when interest rates were more volatile, perceptions of bond investment risk increased relative to the investment risk of equities. This changing investment risk perception caused changes in equity risk premiums.[194]

In view of Chart 9 and Mr. Gorman's statement regarding the presence of an inverse relationship between ERPs and interest rates when interest rates are volatile, his concern should be dismissed.

[194] Gorman Direct Testimony, at 86.

Q. MR. GORMAN CONTENDS THAT AUTHORIZED ROES SET BY REGULATORY COMMISSIONS ARE NOT ADJUSTED BY MARKET FORCES (I.E., NOT MARKET MEASURES OF THE INVESTOR-REQUIRED RETURN).[195] DO YOU AGREE?

A. No. As discussed previously, it is widely accepted that the concept of utility regulation as a substitute for competition, i.e., the authorized ROE, is intended to be equivalent to the investor-required return.

Q. DOES MR. GORMAN USE AUTHORIZED ROES BY REGULATORY COMMISSIONS IN THE DERIVATION OF HIS RPM?

A. Yes, he does. Regarding authorized returns, Mr. Gorman states, "authorized returns are typically based on expert witnesses' estimates of the investor-required return at the time of the proceeding."[196] Given this and all of the above, Mr. Gorman's concerns should be dismissed by the Commission.

Q. MR. GORMAN STATES THAT YOUR MRP ESTIMATES DERIVED FROM BLOOMBERG, *VALUE LINE*, AND S&P CAPITAL IQ DATA "ARE SIGNIFICANTLY OVERSTATED AND NOT REASONABLE"[197] AND THAT YOUR AVERAGE MRP IS "EXCESSIVE AND UNRELIABLE."[198] PLEASE RESPOND.

A. As discussed in my response to Mr. Baudino, Mr. Gorman fails to consider the other measures I have considered. The average MRPs in my Direct and Rebuttal Testimonies fall in the 49th percentile of historical MRPs. As such, Mr. Gorman's concern should be ignored.

195 Gorman Direct Testimony, at 87.
196 Gorman Direct Testimony, at 50.
197 Gorman Direct Testimony, at 91.
198 Gorman Direct Testimony, at 90.

Q. MR. GORMAN STATES THAT "HISTORICAL GROWTH OF THE MARKET HAS TRACKED HISTORICAL GROWTH OF THE U.S. GDP."[199] DO YOU AGREE?

A. No, I do not. As noted in my response to Mr. Baudino, I calculated the correlation coefficient between year-over-year GDP growth and large-capitalization annual stock returns from 1929 to 2024. The correlation coefficient was 0.14, which means that there is little to no link between GDP growth and stock returns.

VII. RESPONSE TO WALMART WITNESS PERRY

Q. PLEASE SUMMARIZE MS. PERRY'S TESTIMONY REGARDING THE COMPANIES' ROE.

A. Ms. Perry opposes the Companies' proposed ROE based on her review of authorized ROEs since 2023 nationwide and within Kentucky. She recommends the Commission reject the Companies' proposed ROE:

> [I]n light of: (1) the use of risk-reducing rate-making structures such as the forecast test year, which accelerates cost recovery and reduces the Company's exposure to regulatory lag when compared to the use of a historical test year in setting rates; (2) the customer impact of the resulting revenue requirement increase as discussed below; and, (3) recent ROEs approved in Kentucky and other jurisdictions nationwide that do not support the Company's requested ROE, as discussed below.[200]

However, Ms. Perry did not undertake an independent, market-based analysis of the Companies' ROE.

Q. WHAT IS YOUR RESPONSE TO MS. PERRY'S TESTIMONY AND ANALYSES?

A. As discussed in Section IV, while authorized ROEs may be a general benchmark of historical ROEs, they do not reflect the current ROE in this proceeding, because: (1) they

[199] Gorman Direct Testimony, at 92.
[200] Perry Direct Testimony, at 9 (KU), Perry Direct Testimony, at 9 (LGE).

do not reflect the unique risks of the Companies in this proceeding; and (2) they are based on past economic conditions. As such, care must be taken when considering the applicability of historical ROEs to the current forward-looking ROE to be set in this proceeding.

VIII. CONCLUSION

Q. PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY?

A. My updated analysis with market data as of September 2, 2025, indicates that my initial ROE recommendation of 10.95% remains reasonable and that the ROEs proffered by the Opposing ROE Witnesses are inadequate at this time. Throughout my Rebuttal Testimony, I have identified key faults of the Opposing ROE Witnesses' analyses, which cause their ultimate recommendations to understate the investor-required return for the Companies. I have also responded to the Opposing ROE Witnesses' critiques of my analyses presented in my Direct Testimony.

Q. SHOULD ANY OR ALL OF THE ARGUMENTS MADE BY THE OPPOSING ROE WITNESSES PERSUADE THE COMMISSION TO LOWER THE RETURN ON COMMON EQUITY IT APPROVES FOR THE COMPANIES BELOW YOUR RECOMMENDATION?

A. No, they should not. My recommended cost of common equity of 10.95% will provide the Companies with sufficient earnings to enable them to attract necessary new capital efficiently and at a reasonable cost, to the benefit of both customers and investors.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

VERIFICATION

STATE OF NEW JERSEY)
)
COUNTY OF CAMDEN)

The undersigned, **Dylan W. D'Ascendis**, being duly sworn, deposes and says that he is a Partner with ScottMadden Inc., that he has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his information, knowledge, and belief.

Dylan W. D'Ascendis

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 25th day of September 2025.

Notary Public

Notary Public ID No. 2416714

My Commission Expires:

2/1/2027

Joyce E Kelly
NOTARY PUBLIC
State of New Jersey
ID # 2416714
My Commission Expires 2/1/2027