G. Business Risks

Q: DOES MR. GORMAN DISCUSS THE COMPANY'S BUSINESS RISKS?

A. Yes. Mr. Gorman states that CenterPoint Houston faces risks that are comparable to the proxy group because the business risks that I have evaluated are already considered by the credit rating agencies, and that the credit rating of CenterPoint Houston is identical to the average credit rating of the proxy group companies.[119]

Q: DO YOU AGREE WITH MR. GORMAN'S ASSESSMENT REGARDING THE RISK FACTORS THAT YOU EVALUATED?

A. No, I do not agree with Mr. Gorman's comparison of credit ratings as being dispositive of CenterPoint Houston's relative risk to the proxy group. Credit ratings are assessments of the likelihood a company could default on its *debt*, whereas the topic of estimating the cost of equity is to determine the riskiness and cost of the Company's *equity*. In addition, while credit rating agencies consider the business risks of an individual company when establishing its debt credit rating, they do not conduct a comparative analysis of business risks relative to the proxy group.

The development of the investor-required ROE is based on a proxy group of risk-comparable companies. In developing the proxy group, it is essential to balance the relative risk of the companies included in the proxy group with the overall size of the group. Therefore, it is always the case that the proxy companies do not have exactly the same risk profile as the subject company. As such, it is reasonable to review the relative risks of the proxy group companies and the subject company to determine how the subject company's risk profile compares with the

[119] Gorman Direct at 96:10-20.

group in order to determine the appropriate placement of the ROE within the range of results established using the proxy group companies.

Q: WHAT IS MR. GORMAN'S POSITION REGARDING THE COMPANY'S "RISK REDUCTION" FACTORS?

A. Mr. Gorman states that, in addition to having no commodity risk, the Company benefits from reduced risk due to its transmission cost of service ("TCOS") and distribution cost recovery factor ("DCRF") adjustment mechanisms that allow for the recovery of transmission and distribution costs between rate cases.[120] According to Mr. Gorman, the reduction in CenterPoint Houston's risk as a result of the aforementioned mechanisms should be reflected in the Company's credit rating and ROE.[121]

Q: IS IT REASONABLE TO CONCLUDE, AS SUGGESTED BY MR. GORMAN, THAT THE COMPANY'S AUTHORIZED ROE SHOULD BE REDUCED GIVEN IT HAS CERTAIN COST RECOVERY MECHANISMS?

A. No. Simply because a utility has certain cost recovery mechanisms does not mean that it is rationale or appropriate to otherwise reduce its authorized ROE as Mr. Gorman contends. As noted, the appropriate approach is to compare the regulatory mechanisms of CenterPoint Houston to the regulatory mechanisms of the proxy group being used to develop the ROE to determine if the Company has greater regulatory risk than the proxy group. As discussed in my direct testimony:

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[120] *Id.* at 98:21-24.

[121] *Id.* at 100:4-6.

- While the Company does have the opportunity for capital cost recovery through the DCRF and TCOS mechanisms, that is consistent with the overwhelming majority of the operating utilities of the proxy group, which also have capital cost recovery mechanisms. Furthermore, the DCRF is only available for use if the Company is not earning its authorized ROE using weather-normalized data.
- The Company does not have the same level of protection against volumetric risk as exists through having straight fixed variable rate design, a revenue decoupling mechanism, and/or a formula rate plan, while approximately 60 percent of the utility operating subsidiaries of the proxy group companies have implemented at least one of these more comprehensive mechanisms to provide protection against volumetric risk and provide revenue stabilization.
- The Regulatory Research Associates jurisdictional ranking and S&P credit supportiveness ranking for Texas is below the average for group.
- The authorized ROEs and equity ratios in Texas have been below the national average for electric utilities.

Therefore, for all these reasons, I concluded that the Texas regulatory framework has somewhat greater risk than the jurisdictions in which the utility operating subsidiaries of the proxy group companies provide service. Given Mr. Gorman has not provided any analysis to compare the regulatory risk of the Company relative to the proxy group, and credit ratings are assessments of the likelihood a company could default on its *debt* and not an evaluation of the riskiness and cost of the Company's *equity*, he is unable to comment on the risk of CenterPoint Houston relative to the proxy group.

H. Flotation Costs

Q: WHAT IS MR. GORMAN'S POSITION ON FLOTATION COSTS?

A. While Mr. Gorman acknowledges that I do not make a specific adjustment to my recommended ROE as a result of flotation costs, he nonetheless recommends that the Commission should reject any adder to the ROE, either explicit or implicit, associated with flotation costs. Mr. Gorman states that my flotation cost adjustment

is "not based on the recovery of prudent and verifiable actual flotation costs incurred" by the Company.[122]

Q: HAS MR. GORMAN PROVIDED ANY EVIDENCE THAT THE FLOTATION COSTS YOU RELIED ON WERE IMPRUDENT?

A. No. First, it is important to note that the Company is not requesting the recovery of flotation costs in this proceeding and as Mr. Gorman acknowledges, I did not adjust my recommended ROE for flotation costs. Second, the issuance costs relied upon in Exhibit AEB-9 of my direct testimony are the actual costs incurred by CenterPoint Houston's ultimate parent company, CenterPoint Energy, Inc. ("CNP"), in its two most recent equity issuances. Mr. Gorman has provided no evidence to suggest that these costs are inaccurate or unwarranted.

VII. RESPONSE TO DR. WOOLRIDGE

Q: PLEASE SUMMARIZE DR. WOOLRIDGE'S RECOMMENDATIONS IN THIS PROCEEDING.

A. To develop his ROE recommendation of 9.50 percent, Dr. Woolridge prepares a constant growth DCF analysis and a CAPM analysis, and presents results of each using two proxy groups, his assessment of a comparable group ("Panel A") and the proxy group that I rely on in my direct testimony ("Panel B"). Dr. Woolridge's DCF analysis produces cost of equity estimates ranging from 9.90 percent (Panel A) to 10.10 percent (Panel B).[123] The results of Dr. Woolridge's CAPM analyses are 8.55 percent (Panel A) and 8.55 percent (Panel B).[124] Dr. Woolridge suggests

[122] Gorman Direct at 101:2-4.

[123] Woolridge Direct at 46 (Table 7).

[124] *Id.* at 59 (Table 8).

that he relies primarily on the results of his DCF analysis but concludes that the appropriate ROE range for the Company is 9.00 percent to 10.00 percent. He concludes that the Company's overall risk is slightly below the risk of the proxy group; however, he selects the mean result from within this range of 9.50 percent as his recommended ROE.[125] Dr. Woolridge acknowledges that his recommended ROE is below the average authorized ROE for electric distribution companies, but suggests that "authorized ROEs have not declined in line with capital costs over time and therefore, past authorized ROEs have overstated the actual cost of equity capital."[126] Dr. Woolridge contends that the Company's proposed capital structure includes a higher equity ratio than the average of the two proxy groups (Panel A and Panel B),[127] and recommends that the Commission adopt the equity ratio proposed by Mr. Mac Mathuna of 42.50 percent, which is consistent with the equity ratio authorized in the Company's last proceeding.[128]

[125] *Id.*

[126] *Id.* at 60:15-17.

[127] Woolridge Direct at 24:9-11.

[128] *Id.* at 27:7-10.

Q: IS DR. WOOLRIDGE'S STATEMENT IN THIS PROCEEDING THAT THE "COMMISSION SHOULD NOT BE CONCERNED THAT MY RECOMMENDED ROE IS BELOW OTHER AUTHORIZED ROES"[129] CONSISTENT WITH HIS POSITION IN THE COMPANY'S 2019 RATE PROCEEDING?

A. No. In the Company's 2019 rate proceeding, Dr. Woolridge recommended an ROE of 9.00 percent, which was well above his recommended range of 7.30 percent to 8.65 percent based on his DCF and CAPM analyses.[130] Dr. Woolridge testified in the Company's last rate proceeding that his recommended ROE of 9.00 percent in that case:

> (1) **gives weight to the higher authorized ROEs for electric delivery companies**; and (2) recognizes the concept of 'gradualism' in which authorized ROEs are adjusted on a gradual basis to reflect capital market data.[131]

Therefore, in the Company's 2019 rate proceeding, Dr. Woolridge recommended an ROE that was higher than the range indicated by his DCF and CAPM analyses due in part to the fact that his model results were below recently authorized returns for electric distribution companies. This is in stark contrast to the current proceeding, where Dr. Wooldridge is contending that the Commission should now not consider the fact that his recommended ROE is below recent authorized returns for electric distribution companies.

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[129] *Id.* at 60:15-17.

[130] Docket No. 49421, Direct Testimony of J. Randall Woolridge, Ph.D. at 49:3-10 (Jun. 6, 2019).

[131] *Id.* at 49:10-13 (emphasis added).

A. Inconsistency of Dr. Woolridge's ROE Recommendation Relative to Changes in Capital Market Conditions

Q: DO THE RESULTS OF DR. WOOLRIDGE'S MODELS DEMONSTRATE THAT THE COST OF EQUITY HAS INCREASED SIGNIFICANTLY SINCE THE COMPANY'S 2019 RATE PROCEEDING?

A. Yes. Figure AEB-R-19 summarizes the results of Dr. Woolridge's cost of equity analyses that he presented in the Company's 2019 rate proceeding, as well as the results of his analyses in the current proceeding. Reviewing the differences between these two cases, it is clear that, based on his own assumptions and the market data used in his models, Dr. Woolridge's estimates of the cost of equity have increased significantly since 2019. For example, as shown in Figure AEB-R-19, between the Company's 2019 and current rate proceedings, the DCF result for Dr. Woolridge's Panel A proxy group increased 140 basis points while the CAPM result for his Panel A proxy group increased 125 basis points. Despite the significant increase in the cost of equity as demonstrated by Dr. Woolridge's analyses, as noted, he recommends an ROE for the Company in this proceeding of 9.50 percent, which is only 10 basis points greater than the Company's existing authorized ROE.

Figure AEB-R-19: Comparison of Dr. Woolridge's Cost of Equity Analyses in CenterPoint Houston's 2019 Rate Proceeding and the Current Rate Proceeding[132]

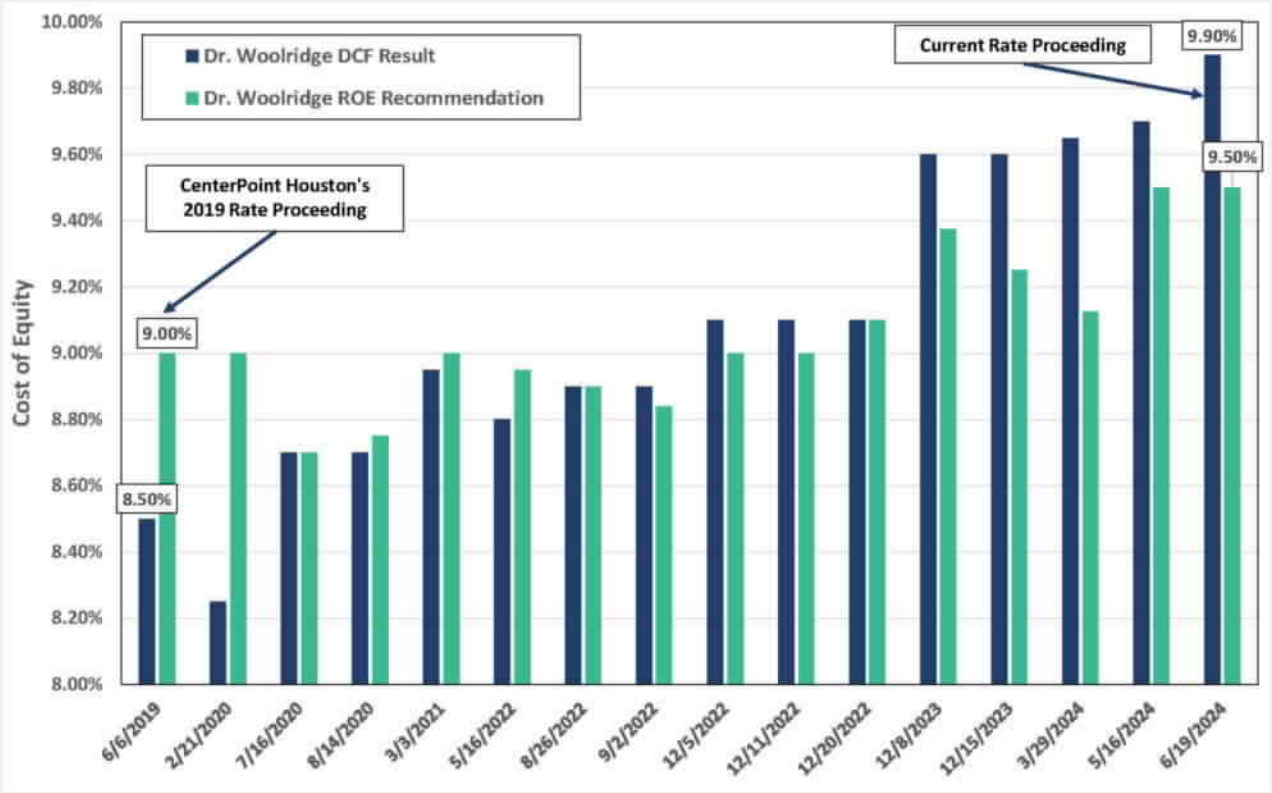
	CenterPoint Houston Docket No. 49421 6/9/2019	CenterPoint Houston Docket No. 56211 6/19/2024
Constant Growth DCF		
Panel A Proxy Group	8.50%	9.90%
Panel B Proxy Group	8.65%	10.10%
CAPM		
Panel A Proxy Group	7.30%	8.55%
Panel B Proxy Group	7.30%	8.55%
DCF/CAPM Range	7.30% to 8.65%	8.55% to 10.10%
DCF/CAPM Midpoint	7.98%	9.33%
Recommended ROE Range	7.30% to 8.65%	9.00% to 10.00%
Recommendation	9.00%	9.50%

Q: WHY DOES DR. WOOLRIDGE'S RECOMMENDED ROE IN THE CURRENT PROCEEDING NOT REFLECT THE CHANGE IN COST OF EQUITY AS REFLECTED IN HIS MODEL RESULTS?

A. The reason that Dr. Woolridge's recommendation has not increased since 2019 by the same amount as the results of his cost of equity model results is because Dr. Woolridge has changed the weight that he places on his model results in determining his ROE recommendation. Figure AEB-R-20 summarizes Dr. Woolridge's DCF results and ROE recommendations in 16 proceedings since 2019 for transmission and distribution only electric utilities. As shown, the results of Dr. Woolridge's DCF analyses have increased substantially from June 2019 through July 2024.

[132] *Id.* at 48:16-49:29; Woolridge Direct at 46 (Table 7), 59 (Table 9).

Figure AEB-R-20: Comparison of Dr. Woolridge's DCF Model Results and ROE Recommendations – Transmission and Distribution Only Electric Utilities - 2019-2024



Dr. Woolridge has noted in many proceedings, including the current proceeding, that he relies "primarily" on the DCF model to set his ROE recommendation. As shown in Figure AEB-R-20, this was an accurate statement from 2019 through 2022 with Dr. Woolridge setting his ROE recommendation at or above the results of his DCF model.[133] However, as shown in Figure AEB-R-20, as the results of his DCF analysis continued to increase in 2023, Dr. Woolridge started to set his ROE recommendation at a level that was well below the results of his DCF analysis. For

[133] In the Company's 2019 rate proceeding, Dr. Woolridge recommended an ROE of 9.00 percent which was well above the 8.65 percent cost of equity indicated by his DCF model. Dr. Woolridge selected an ROE above his DCF results for two reasons: (1) in acknowledgment that his DCF results were well below authorized ROEs for transmission and distribution only electric utilities; and (2) to recognize the concept of gradualism. Docket No. 49421, Direct Testimony of J. Randall Woolridge, Ph.D. at 49:9-13.

example, in the current proceeding, while he also contends to "primarily" weight the results of his DCF analysis for purposes of his ROE recommendation, his recommended ROE of 9.50 percent is well below the range of results produced by his DCF model of 9.90 percent to 10.10 percent. Therefore, instead of considering the substantial increase in his DCF results since 2019 and reflecting this in his ROE recommendation, Dr. Woolridge has arbitrarily adjusted the weight he places on his DCF analysis to reduce the effect of the increase in his DCF results on his overall ROE recommendation.

Q: WHAT WOULD DR. WOOLRIDGE'S RECOMMENDATION BE IN THE CURRENT PROCEEDING IF HE PLACED PRIMARY WEIGHT ON THE RESULTS OF HIS DCF MODEL SUCH AS HE HAS DONE IN PRIOR CASES?

A. If Dr. Wooldridge employed a similar approach that he did in the rate proceedings for transmission and distribution only electric utilities from 2019 through 2022, he would have set his recommended ROE equal to the results of his DCF model. Therefore, Dr. Woolridge would have recommended an ROE in the range of 9.90 percent to 10.10 percent. Dr. Woolridge has offered no rationale for why he has changed his approach for determining his recommended ROE. Accordingly, it appears he has done so to artificially reduce the effect on the increase in the cost of equity resulting from the change in market conditions.

B. Proxy Group

Q: HOW DOES DR. WOOLRIDGE SELECT THE COMPANIES INCLUDED IN HIS PROXY GROUP?

A. Dr. Woolridge starts with 36 utilities that are classified by *Value Line* as electric utilities. Dr. Woolridge narrows this universe using a set of screening criteria that require a company: (1) have at least 50 percent of operating revenue from retail electric operations; (2) have an investment grade credit rating; (3) have paid a cash dividend in the last 6 months with no cuts or omissions; (4) is not involved in a merger or acquisition; and (5) have projected EPS growth rates available from *Yahoo! Finance*, S&P Cap IQ and/or *Zacks*.[134] Based on his application of these screening criteria, Dr. Woolridge's proxy group includes 24 companies, and as noted, he also presents the results of his cost of equity estimation methodologies using my proxy group as well.

Q: ARE THE SCREENING CRITERIA APPLIED BY DR. WOOLRIDGE APPROPRIATE FOR ESTABLISHING A PROXY GROUP OF COMPANIES THAT ARE MOST COMPARABLE TO CENTERPOINT HOUSTON?

A. No. I disagree with various aspects of the screening criteria and resulting companies in Dr. Woolridge's proxy group. For example, I do not agree with either Dr. Woolridge's use of a revenue screen, which results in a proxy group that is not as risk-comparable to the Company as my proxy group. However, while Dr. Woolridge's proxy group is different than the proxy group that Mr. Gorman

[134] Woolridge Direct at 22:2-11.

and I utilize, the differences in the results of our respective cost of equity models are largely not a function of proxy group differences, but rather methodological differences in the inputs to the cost of equity models. As a result, I will not further discuss my disagreements with his proxy groups.

C. Constant Growth DCF

Q: PLEASE SUMMARIZE DR. WOOLRIDGE'S DCF ANALYSES.

A. In his constant growth DCF model, Dr. Woolridge calculates dividend yields for the Panel A and Panel B proxy groups using average stock prices over three periods: 30 days, 90 days and 180 days – for the period ending June 11, 2024. While Dr. Woolridge reviews various growth rates, including historical and projected EPS, DPS, and BVPS growth rates, as well as an estimate of a sustainable growth rate calculated using *Value Line* projections, he gives primary weight to projected EPS growth rates from *Value Line*, *Yahoo! Finance*, *Zacks*, and S&P Capital IQ Pro. Based on Dr. Woolridge's selected growth rate, his DCF model produces a cost of equity result of 9.90 percent for Panel A and 10.10 percent for the Panel B proxy groups.[135]

Q: WHAT ARE THE GROWTH RATES THAT DR. WOOLRIDGE HAS CONSIDERED IN HIS DCF ANALYSIS?

A. Figure AEB-R-21 summarizes the growth rate ranges considered by Dr. Woolridge and the growth rates that he ultimately relies on for his constant growth DCF model. While he presents historical growth rates, Dr. Woolridge ignores historical growth rates and establishes his growth rate range of 5.25 percent to 6.20 percent through

[135] *Id.* at 46 (Table 7).

a series of averages of the projected growth rates. Specifically, Dr. Woolridge establishes the low end of his growth rate range by averaging three values: (1) the projected EPS, DPS, and BVPS growth rates reported by *Value Line*; (2) *Value Line*'s sustainable growth rate; and (3) the average of the projected EPS growth rates reported by *Yahoo! Finance*, *Zacks*, and S&P ("Wall Street Analysts"). The high end of the range is set by the average of the projected EPS growth rates reported by Wall Street Analysts. Dr. Woolridge's growth rate for both proxy groups is the midpoint between the low end and high end of his range.[136]

Figure AEB-R-21: Summary of the Growth Rates Considered by Dr. Woolridge for the Constant Growth DCF Analysis[137]

	Panel A Proxy Group	Panel B Proxy Group
Projected Avg. *Value Line* Growth in EPS, DPS and BVPS	5.00%	5.30%
Value Line Projected Sustainable Growth Rate	4.10%	4.00%
Projected EPS (Yahoo!, Zacks, and S&P Cap IQ) (average of mean and media	6.20%	6.25%
Dr. Woolridge low-end growth rate	5.25%	5.20%
Dr. Woolridge high-end growth rate	6.20%	6.25%
Dr. Woolridge Proposed Growth Rate	**5.70%**	**5.70%**

Q: DO YOU AGREE WITH DR. WOOLRIDGE'S CONSIDERATION OF PROJECTED DPS AND BVPS GROWTH RATES?

A. No. EPS growth rates are more appropriate to be relied upon in the DCF analysis given that: (1) earnings are the fundamental determinant of a company's ability to pay dividends; (2) as discussed in my response to Mr. Gorman, there is significant

[136] *Id.* at 45:18-46:17.

[137] *Id.*, and Exhibit JRW-5 at 6.

academic research demonstrating that EPS growth rates are most relevant in stock price valuation; and (3) investment analysts report predominant reliance on EPS growth projections.[138]

Q: ARE THE PROJECTED DPS AND BVPS GROWTH RATES FROM *VALUE LINE* THAT DR. WOOLRIDGE CONSIDERS CONSISTENT WITH THE REQUIRED ASSUMPTIONS TO ESTIMATE THE CONSTANT GROWTH DCF MODEL?

A. No. Dr. Woolridge and I agree that one of the primary assumptions of the constant growth DCF model is that the growth rate needs to be constant.[139] Further, since earnings are the fundamental determinant of a company's ability to pay dividends, over the long-term, dividend growth can only be sustained by earnings growth. From this fact, it can be reasonably concluded that: (1) since DPS growth is sustained by EPS growth, DPS growth cannot exceed the growth in EPS over the long-term; and (2) while DPS growth can grow at a lower rate than EPS, if a company is retaining a larger portion of earnings, eventually DPS growth will increase in the future if EPS and DPS are expected to grow at a constant rate.[140] Additionally, if either condition were to exist, then the projected DPS growth rate would be expected to change and thus could not be assumed in perpetuity as required by the constant growth DCF model.

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[138] Stanley B. Block, "A Study of Financial Analysts: Practice and Theory," *Financial Analysts Journal*, (Jul./Aug. 1999).

[139] Woolridge Direct at 36:13-37:6.

[140] Bente Villadsen, Michael J. Vilbert, Dan Harris, and A. Lawrence Kolbe, *Risk and Return for Regulated Industries*, at 99 (2017).

Q: ARE *VALUE LINE*'S PROJECTED DPS AND EPS GROWTH RATES EQUIVALENT?

A. No. As shown in Figure AEB-R-22, *Value Line*'s projected DPS growth rates are only equivalent to its projected EPS growth rates for 4 of the 24 companies in Dr. Woolridge's Panel A proxy group. Projected DPS growth rates for the remaining 20 companies are either less than or greater than the projected EPS growth rates. As a result, it would not be reasonable to assume *Value Line*'s projected DPS growth rate in perpetuity for these companies.

Figure AEB-R-22: *Value Line*'s Projected EPS and DPS Growth Rates, Dr. Woolridge's Panel A Proxy Group[141]

	Value Line Projected		Basis Point Difference
	EPS	DPS	(EPS - DPS)
Panel A Proxy Group			
Alliant Energy Corporation	6.0%	6.0%	0
Ameren Corporation	6.5%	6.5%	0
American Electric Power Co.	6.5%	5.5%	100
Avista Corporation	6.0%	4.5%	150
CMS Energy Corporation	5.0%	4.0%	100
Consolidated Edison, Inc.	6.0%	3.5%	250
Duke Energy Corporation	5.0%	2.0%	300
Edison International	6.0%	5.5%	50
Entergy Corporation	0.5%	3.5%	(300)
Evergy, Inc.	7.5%	7.0%	50
Eversource Energy	6.0%	6.0%	0
Exelon Corporation	NMF	NMF	NMF
IDACORP, Inc.	5.0%	5.5%	(50)
MGE Energy, Inc.	6.0%	3.5%	250
Nextera Energy, Inc.)	8.0%	9.0%	(100)
NorthWestern Corporation	4.0%	2.0%	200
OGE Energy Corp.	6.5%	3.0%	350
Pinnacle West Capital Corp.	4.5%	1.5%	300
Portland General Electric Company	6.0%	5.5%	50
PPL Corporation	7.5%	-0.5%	800
Public Service Enterprise Group Incorporated	5.0%	5.0%	0
Southern Company	6.5%	3.5%	300
WEC Energy Group	6.0%	7.0%	(100)
Xcel Energy Inc.	7.0%	5.5%	150

Q: IS THE USE OF *VALUE LINE*'S PROJECTED BVPS GROWTH RATES IN THE CONSTANT GROWTH DCF ALSO UNREASONABLE?

A. Yes. Since BVPS is the inverse of DPS (i.e., BVPS growth increases as earnings are retained and not paid out as dividends), an expected change in the growth in DPS would also affect BVPS growth. Thus, given that *Value Line* does not expect EPS and DPS to grow at the same constant rate, Dr. Woolridge's reliance on *Value*

[141] Woolridge Direct, Exhibit JRW-5 at 4.

Line's projected DPS and BVPS growth rates violate one of the primary assumptions of the constant growth DCF model.

Q: ARE THE RESULTS OF DR. WOOLRIDGE'S CONSTANT GROWTH DCF USING SUSTAINABLE GROWTH RATES REASONABLE?

A. No. As a threshold matter, while Dr. Woolridge does not estimate a cost of equity directly using the sustainable growth rate, he does include the sustainable growth rates in the average growth rate that he uses to estimate a cost of equity for both proxy groups. Exhibit AEB-R-13 highlights the fact that the sustainable growth rates that Dr. Woolridge has included in his DCF analyses are unreasonable. For example, as shown therein, if Dr. Woolridge had relied solely on his sustainable growth rates, the resulting median cost of equity would be in the range of 8.08 percent to 8.34 percent for the Panel A Proxy Group depending on whether the 30-day, 90-day or 180-day average stock prices are utilized. However, all of these cost of equity results are significantly below the average authorized ROEs for both electric utilities and natural gas utilities since 2010 that Dr. Woolridge cites in his testimony.[142] The *Hope* and *Bluefield* decisions, which Dr. Woolridge acknowledges, require the authorized return to be comparable to other returns available to investors in companies with similar risk. Dr. Woolridge's reliance on sustainable growth rates for purposes of developing his overall growth rates used in his constant growth DCF analyses clearly do not meet this standard.

Moreover, the use of retention or sustainable growth rates ignores the extensive academic research demonstrating that EPS growth rates are most relevant

[142] *Id.* at 15:1-16:22.

in stock price valuation, and as discussed in my response to Mr. Gorman, academic research has concluded that the underlying premise of the sustainable growth rate calculation (i.e., that future earnings will increase as the retention ratio increases) is inaccurate and that the opposite is true. Finally, Dr. Woolridge's sustainable growth rate calculation, which is based on data from *Value Line*, cannot be expected to remain constant for the same reasons discussed for the DPS growth rates reported by *Value Line*. As such, Dr. Woolridge's reliance on retention growth rates in the constant growth DCF model is not appropriate.

Q: DR. WOOLRIDGE CONTENDS THAT HE HAS DEVELOPED AN ANALYSIS THAT DEMONSTRATES PROJECTED EPS GROWTH RATES ARE "OVERLY OPTIMISTIC AND UPWARDLY BIASED."[143] DO YOU AGREE WITH THIS ANALYSIS?

A. No. There are two significant flaws with Dr. Woolridge's analysis that invalidate his conclusion that projected EPS growth rates are upwardly biased. The first flaw is that Dr. Woolridge conducts his analysis over the period of 1985 through 2022; however, as discussed in detail later herein, the 2003 Global Analysts Research Settlement (the "Global Settlement") served to significantly reduce the bias referred to by Dr. Woolridge. Specifically, the Global Settlement:

- required financial institutions to insulate investment banking from analysis;
- prohibited analysts from participating in "road shows;"
- required the settling financial institutions to fund independent third-party research; and

[143] *Id.* at 40:20-44:2, 62:4-65:3.

- required analysts covering the common stock of the proxy companies certify that their analyses and recommendations are not related, either directly or indirectly, to their compensation.

It is inappropriate to rely on data for the period from prior to the Global Settlement in an attempt to test for bias that may exist since the implementation of these significant reforms that were implemented to address potential bias. Therefore, the underlying data set relied upon by Dr. Woolridge is flawed as a result of his use of historical data that pre-dates the Global Settlement.

Q: WHAT IS THE SECOND FLAW WITH DR. WOOLRIDGE'S PROJECTED EPS GROWTH RATE STUDY?

A. The second flaw in Dr. Woolridge's projected EPS growth rate analysis is that there are several examples of abnormally high or low EPS growth rates that bias his analysis. To estimate the actual three-to-five-year EPS growth rate, Dr. Woolridge calculated the compound annual growth rate ("CAGR") over a four-year period. For example, in his 2021 data, Dr. Woolridge estimated actual EPS growth as the CAGR over the period of 2017 through 2021. In this instance, since his calculation relies on actual EPS in 2017 and 2021, it is important to review the EPS in both years to determine if the EPS in either year is abnormally high or low and thus possibly affected by a one-time financial event. In fact, Dr. Woolridge notes a similar concern when discussing *Value Line*'s projected EPS growth rates:

> It should be noted that *Value Line* uses a different approach in estimating projected growth. *Value Line* does not project growth from today, but *Value Line* projects growth from a three-year base period – 2020-2022 – to a projected three-year period for the period 2026-2028. *Using this approach, the three-year based period can have a significant impact on the Value Line growth rate if this base period includes years with abnormally high or low earnings.*

> Therefore, I evaluate these growth rates separately from analysts EPS growth rates.[144]

While Dr. Woolridge has recognized the effect that abnormally high or low actual EPS could have on *Value Line*'s projected EPS growth rates, he does not seem to account for this concern in his own comparison of actual to projected EPS growth rates for his sample of electric and natural gas utilities from 1985 to 2022. The following are examples of the CAGRs that were included in Dr. Woolridge's studies that were abnormally high or low and biased his study:

- *PG&E Corporation ("PG&E")*: Dr. Woolridge calculated an actual CAGR from 2017 through 2021 of -26.40 percent. However, PG&E filed for bankruptcy in 2019 due to claims brought against the company as a result of billions of dollars of wildfire liabilities.[145] Therefore, Dr. Woolridge is calculating an actual EPS growth rate from 2017 through 2021, where EPS in 2017 is not affected by the bankruptcy while EPS in 2021 is affected by the bankruptcy, resulting in an EPS growth rate over this period of -26.40 percent. Dr. Woolridge should not have included this observation in his calculation of the average actual EPS growth rate for his sample of electric and natural gas utilities in 2021. Similarly, PG&E was also included in Dr. Woolridge's average for 2020, even though the same concern exists. In the 2020 data set calculated by Dr. Woolridge, PG&E's actual growth rate from 2016 through 2020 was -19.11 percent because he again relied on the pre-bankruptcy EPS from 2016 as the base for his calculation.
- *SCANA Corporation ("SCANA")*: While Dr. Woolridge developed a growth rate for this company in 2019, SCANA was acquired by Dominion Energy, Inc. on January 1, 2019, therefore it is not clear how Dr. Woolridge obtained an estimate of EPS for SCANA in 2019. Further, the EPS estimate he reported for 2019 was extremely low and resulted in an actual EPS growth rate of -49.24 percent for 2015 through 2019.
- *NSTAR*: Dr. Woolridge included NSTAR in his average actual EPS growth rate for his sample in 2015 even though NSTAR merged with Northeast Utilities to form Eversource Energy ("Eversource") in April 2012. Dr. Woolridge estimated an actual EPS growth rate of -43.19 percent for NSTAR in 2015; a period that is several years past the period that NSTAR even existed. Thus, the inclusion of this growth rate in his 2015 sample is inappropriate, significantly biases the actual average EPS for his electric

[144] *Id.* at 44 n.19 (emphasis added).

[145] *Value Line* report for PG&E Corp. (Oct. 20, 2023).

> and natural gas sample group downwards and makes his comparison to the projected EPS growth rates invalid.

It is important to note that the aforementioned examples of PG&E, SCANA, and NSTAR are not an exhaustive list of the errors in Dr. Woolridge's analysis. The examples provide evidence that Dr. Woolridge has not reviewed the actual EPS data for the companies included in his sample to ensure that the results are not biased by one-time financial events. It is evident given the concerns with Dr. Woolridge's analysis that it is not reasonable to use his analysis as a basis to conclude that projected EPS growth rates are "overly optimistic and upwardly biased."

Q: HAVE SEVERAL ACADEMIC STUDIES CONCLUDED THAT PROJECTED EPS GROWTH RATES ARE NOT UPWARDLY BIASED?

A. Yes. Several studies have been conducted on data since the Global Settlement decision was issued and concluded that the bias that may have existed prior to the settlement was no longer of concern and that any issues related to analysts' forecasts pertained to firms with characteristics very different from those of utilities. For example, Hovakimian and Saenyasiri (2010) found that analyst forecast bias declined significantly or disappeared entirely since the Global Settlement:

> Introduced in 2002, the Global Settlement and related regulations had an even bigger impact than Reg FD on analyst behavior. After the Global Settlement, the mean forecast bias declined significantly, whereas the median forecast bias essentially disappeared. Although disentangling the impact of the Global Settlement from that or related rules and regulations aimed at mitigating analysts' conflicts of interest is impossible, forecast bias clearly declined around the time the Global Settlement was announced. These results suggest

that the recent efforts of regulators have helped neutralize analysts' conflicts of interest.[146]

Other studies such as Hribar and McInnis (2012)[147] and Michel and Pandes (2012)[148] found that analyst earnings forecasts turn out to be too optimistic for stocks that are more difficult to value, for instance, stocks of smaller firms, firms with high volatility or turnover, younger firms, or firms whose prospects are uncertain. These characteristics describe companies that are more volatile and/or less transparent than the average firm – none of which is applicable to the more mature and stable utility companies in my and Dr. Woolridge's proxy groups, where all companies had at least two analysts providing EPS growth rate estimates and who, due to their regulated nature, have information transparency. Consequently, optimism bias is not expected to be an issue for utilities.

Q: IS THERE OTHER ACADEMIC RESEARCH THAT ALSO SUPPORTS YOUR CONCLUSION THAT THE ANALYSTS' PROJECTED EPS GROWTH RATES FOR UTILITIES ARE NOT OVERLY OPTIMISTIC?

A. Yes. Behn, Choi and Kang (2008) examined the relationship between financial audit quality and the accuracy of earning growth projections. Ultimately, the authors concluded that the accuracy of analysts' earnings growth projections were

[146] Armen Hovakimian and Ekkachai Saenyasiri, "Conflicts of Interest and Analyst Behavior: Evidence from Recent Changes in Regulation," *Financial Analysts Journal*, Volume 66, Number 4, at 195 (Jul./Aug. 2010).

[147] Paul Hribar and John M. McInnis, "Investor Sentiment and Analysts' Earnings Forecast Errors," *Management Science* (Special Issue on Behavioral Economics and Finance), Vol. 58, No. 2, at 293-307 (Feb. 2012).

[148] Jean-Sebastien Michel and J. Ari Pandes, "Are Analysts Really Too Optimistic?," *Social Science Research Network*, (Mar. 15, 2012).

higher if the company was audited by a "Big 5" accounting firm.[149] At the time of the study, the Big 5 accounting firms were Deloitte & Touche, Price Waterhouse, KPMG, Ernst and Young and Coopers and Lybrand. However, because of the merger of Price Waterhouse and Coopers and Lybrand, there are currently four big accounting firms. As shown in Figure AEB-R-23, all of the companies included in Dr. Woolridge's Proxy Group (as well as in my proxy group) are audited by a "Big 4" accounting firm, thus indicating a higher forecast accuracy of earnings growth projections for the proxy group companies.

[149] Bruce K. Behn, Jong-Hag Choi and Tony Kang, "Audit Quality and Properties of Analysts Earnings Forecasts," *The Accounting Review*, Vol. 83, No. 2, at 327-349 (Mar. 2008).

Figure AEB-R-23: Auditors of the Proxy Group Companies

	Auditor
Electric Proxy Group	
Alliant Energy Corporation	Deloitte & Touche LLP
Ameren Corporation	PricewaterhouseCoopers LLP
American Electric Power Company, Inc.	PricewaterhouseCoopers LLP
Avista Corporation	Deloitte & Touche LLP
CMS Energy Corporation	PricewaterhouseCoopers LLP
Consolidated Edison, Inc.	PricewaterhouseCoopers LLP
Duke Energy Corporation	Deloitte & Touche LLP
Edison International	PricewaterhouseCoopers LLP
Entergy Corporation	Deloitte & Touche LLP
Evergy, Inc.	Deloitte & Touche LLP
Eversource Energy	Deloitte & Touche LLP
Exelon Corporation	PricewaterhouseCoopers LLP
IDACORP, Inc.	Deloitte & Touche LLP
MGE Energy, Inc.	PricewaterhouseCoopers LLP
NextEra Energy, Inc.	Deloitte & Touche LLP
NorthWestern Corporation	Deloitte & Touche LLP
OGE Energy Corporation	Ernst & Young
Pinnacle West Capital Corporation	Deloitte & Touche LLP
Portland General Electric Company	Deloitte & Touche LLP
PPL Corporation	Deloitte & Touche LLP
Public Service Enterprise Group Incorporated	Deloitte & Touche LLP
Southern Company	Deloitte & Touche LLP
WEC Energy Group, Inc.	Deloitte & Touche LLP
Xcel Energy Inc.	Deloitte & Touche LLP

Q: ARE THE STUDIES CITED BY DR. WOOLRIDGE THAT EXAMINE THE POTENTIAL BIAS IN ANALYSTS' EPS GROWTH PROJECTIONS RELEVANT IN THE EVALUATION OF CURRENT EPS GROWTH RATE PROJECTIONS?

A. No. Dr. Woolridge references a number of articles that he asserts prove the potential bias in analysts' EPS projections.[150] However, all but one of these studies

[150] Woolridge Direct at 40:1-43:16.

were conducted prior to the Global Settlement in October 2003, which changed the relationship between banking institutions and equity analysts. Therefore, any study that relies on data prior to the Global Settlement and the changes made in the banking industry at that time separating banking and equity analysts cannot be relied upon as representative of current market data.

Further, the one study that Dr. Woolridge relies upon since the 2023 Global Settlement was prepared by McKinsey and Company in April 2010. This study notes that the earnings reported by S&P 500 companies met and exceeded the growth rate projected by analysts between 2003 and 2006.[151] While the McKinsey study also notes that analysts' projections did exceed actual earnings growth in 2007 and 2008, this time-period reflected the start of the Great Recession. Therefore, the fact that analysts' projections exceeded actual earnings growth during the 2007-2008 period does not indicate analyst bias, but rather shows that analysts were unable to predict the severity and magnitude of the financial crisis, which is no different than any other recession or other unanticipated event (e.g., the COVID-19 pandemic). Furthermore, the McKinsey study examined analysts' EPS forecasts for a given year at one, two, and three years out. It did not review the 3- to 5-year EPS growth rates that I used in my constant growth DCF analysis, which are meant to represent average growth for a company over a longer period of time.

[151] Marc Goedhart, Rishi Raj, and Abhishek Saxena, "Equity analysts: Still too bullish," McKinsey and Company, (Apr. 1, 2010).

Q: HAVE OTHER REGULATORY COMMISSIONS ALSO RELIED ON PROJECTED EPS GROWTH RATES AS THE ESTIMATE OF LONG-TERM GROWTH IN THE CONSTANT GROWTH DCF MODEL?

A. Yes. For example, the Pennsylvania PUC has historically preferred the use of analysts' projected EPS growth rates in the constant growth DCF analysis.[152]

Q: IF DR. WOOLRIDGE HAD APPROPRIATELY RELIED ON ANALYSTS' PROJECTED EPS GROWTH RATES IN HIS CONSTANT GROWTH DCF MODEL, WHAT COST OF EQUITY WOULD HIS ANALYSIS HAVE PRODUCED?

A. Exhibit AEB-R-14 presents Dr. Woolridge's DCF analysis for his Panel A proxy group. In this analysis, there is a DCF result for each company in the proxy group as opposed to applying judgment to determine a single dividend yield and growth rate for the entire proxy group. As shown, relying on Dr. Woolridge's proxy group and using an average of analysts' projected EPS growth rates for each proxy group company results in a cost of equity range of 10.11 percent to 10.34 percent depending on whether the 30-day, 90-day or 180-day average stock prices are utilized, which is 21 to 44 basis points higher than Dr. Woolridge's DCF results of 9.90 percent for his Panel A proxy group in which he uses a single growth rate for the proxy group based on his judgment. When the maximum projected EPS growth rate for each proxy group company is utilized, the DCF range is 11.21 percent to 11.44 percent, or 131 to 154 basis points higher than Dr. Woolridge's DCF

[152] *Pennsylvania Public Utility Commission Et al., v. PECO Energy Company-Gas Division*, Pennsylvania Public Utility Commission, Docket No. Docket No. R-2020-3018929, Opinion and Order at 160 (Jun. 17, 2021).

approach in which he uses a single growth rate for the proxy group based on his judgment.

D. CAPM

Q: PLEASE SUMMARIZE DR. WOOLRIDGE'S CAPM ANALYSES.

A. Dr. Woolridge conducts a single CAPM analysis relying on: (1) a risk-free rate based the current yield on the 30-year Treasury bonds; (2) current adjusted betas for his proxy group as reported by *Value Line* and S&P; and (3) a market risk premium that considers historical risk premia, projected market risk premium studies (both current and historical studies), surveys of financial professionals, and historical "building block" models of the expected market risk premium, giving the most weight to the estimates of *Kroll*, J.P. Morgan, KPMG, Professor Damodaran, and the IESE Business School study.[153]

Q: ARE THE RESULTS OF DR. WOOLRIDGE'S CAPM ANALYSES REASONABLE?

A. No. Dr. Woolridge's CAPM result of 8.55 percent is well below the average authorized ROE for all electric utilities referenced by Dr. Woolridge from 2010 through 2023. More specifically, the result of Dr. Woolridge's CAPM analysis for his Panel A proxy group is 111 basis points *below* the average authorized ROE in 2019 which represents the time-frame of the Company's last rate proceeding, when interest rates were 152 to 234 basis points *lower* than in current market

[153] Woolridge Direct at 47:4-59:10.

conditions.[154] Therefore, the results of Dr. Woolridge's CAPM analyses do not appropriately reflect the cost of equity in the current interest rate environment.

Q: DOES THE MARKET RISK PREMIUM CONSIDERED BY DR. WOOLRIDGE REFLECT THE INVERSE RELATIONSHIP BETWEEN INTEREST RATES AND THE MARKET RISK PREMIUM?

A. No. Dr. Woolridge's market risk premium does not reflect the inverse relationship between interest rates and the market risk premium. Given that current interest rates on long-term government bonds are below the historical average interest rate of those same bonds, it is reasonable to expect that the market risk premium should be greater than the long-term historical average market risk premium of 7.17 percent – which is not the case for Dr. Woolridge's CAPM.[155]

In addition, the drawbacks of using survey data include, among other things, biased responses, biased sampling, being affected by how the questions are asked and on recent stock price movements, and that surveys can suffer from low response rates. However, more importantly, as noted, the author of the IESE Business School survey on which Dr. Woolridge relies states that the average of the distribution of the required equity premium from the survey *cannot be interpreted as the required equity premium of the market nor of a representative investor.*[156]

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[154] Comparison calculated as the difference between the interest rate used in Dr. Woolridge's CAPM of 4.50 percent less the 30-day average 30-year Treasury bond yield as of April 5, 2019 (2.98 percent), when the Company filed its last rate case (Docket No. 49421) and February 14, 2020 (2.16 percent), when the settlement was adopted by the Commission in that proceeding.

[155] The market risk premium from 1926-2023 is calculated as the average return on the S&P 500 Index from 1926-2023 (12.04 percent) minus the average income-only return on long-term government bonds over the same time-period (4.87 percent). (Source: Kroll, Cost of Capital Navigator, 2023).

[156] Pablo Fernandez, Diego Garcia de la Garza, and Lucia Fernandez Acin, "Survey: Market Risk Premium and Risk-Free Rate used for 96 countries in 2024," IESE Business School, at 11 (Mar. 11, 2024) (emphasis added).

Q: CAN YOU DEMONSTRATE THAT THE MARKET RISK PREMIA DR. WOOLRIDGE RELIES ON FROM *KROLL*, PROFESSOR DAMODARAN, J.P. MORGAN, AND KPMG SHOULD NOT BE RELIED UPON GIVEN THE RESULTS OF DR. WOOLRIDGE'S DCF ANALYSIS?

A. Yes. Dr. Woolridge states that the electric utilities in both the Panel A and Panel B proxy groups are less risky than the market overall, which is supported by the fact that he relies on an average beta coefficient for the Panel A and Panel B proxy groups that are less than 1.0 (i.e., he relies on an average beta coefficient of 0.81 for both the Panel A and Panel B proxy groups). Therefore, the implied market returns associated with the *Kroll*, Professor Damodaran, J.P. Morgan, and KPMG market risk premia should be significantly higher than the return Dr. Woolridge estimates using his constant growth DCF analysis for a group of electric utilities that are less risky than the market overall. However, as shown in Figure AEB-R-24, the opposite is true. As shown, the market risk premia published by *Kroll*, Professor Damodaran, J.P. Morgan, and KPMG indicate an implied market return range of 7.90 percent to 9.68 percent, respectively. Therefore, while Dr. Woolridge concludes that electric utilities are less risky than the market overall, the implied returns on the stock market overall from *Kroll*, Professor Damodaran, J.P. Morgan, and KPMG are less than Dr. Woolridge's DCF results for a group of electric utilities.

Figure AEB-R-24: Implied Market Returns of Dr. Woolridge's Cited Market Risk Premia as Compared to His Constant Growth DCF Results[157]

	Total Market			Dr. Woolridge's Constant Growth DCF Result	
	Market Risk Premium	Risk-Free Rate	Implied Market Return	Panel A	Panel B
Kroll	5.00%	4.68%	9.68%	9.90%	10.10%
Professor Damodaran	4.12%	4.53%	8.65%		
J.P. Morgan	5.00%	4.38%	9.38%		
KPMG	4.40%	3.50%	7.90%		

Q: WHAT IS THE PRIMARY POINT OF DISAGREEMENT THAT DR. WOOLRIDGE HAS REGARDING YOUR CAPM ANALYSES?

A. Dr. Woolridge contends that the forward-looking market return, and thus market risk premium, in my CAPM analyses are overstated.[158]

Q: IS THE MARKET RETURN, AND THUS MARKET RISK PREMIUM, YOU HAVE RELIED ON OVERSTATED AS CLAIMED BY DR. WOOLRIDGE?

A. No. First, as just discussed, Dr. Woolridge's market risk premia are understated because of the failure to account for the inverse relationship between interest rates and the market risk premium. Therefore, as a threshold mater, this error invalidates

[157] Note, Dr. Woolridge does not specify a market return for his market risk premia; however, the implied market return for each of the market risk premia sources on which he relies for his CAPM analysis can be estimated based on the risk-free rate specified by each of those same sources. Specifically, Dr. Woolridge's *Kroll* market risk premium reflects the spot yield on the 20-year Treasury bond as of June 10, 2024 as the risk-free rate based on *Kroll*'s approach of using the higher of their recommended risk-free rate or the 20-year Treasury bond yield. Similarly, KPMG does not specifically cite a risk-free rate used to develop the implied market risk premium; however, KPMG notes that the yields on long-term government bonds were reviewed to estimate the implied market risk premium. Therefore, since KPMG's implied market risk premia is as of March 31, 2024, the 30-day average of the 30-year Treasury bond yield as of March 31, 2024 is used as the estimate of the risk-free rate to calculate the implied market return.

[158] Woolridge Direct at 66:10-80:4.

any comparison that Dr. Woolridge attempts to make using his data to suggest that the market risk premium in my CAPM analysis is overstated.

Moreover, as discussed in my response to Mr. Gorman:

- Various other regulatory commissions have supported the calculation of the market return and thus market risk premium using methodologies that are similar to the methodology that I rely on.
- In its review of FERC Opinion No. 569-B, the U.S. Court of Appeals for the District of Columbia determined that FERC's rationale for using projected EPS growth rates in a constant growth DCF model to estimate the market return (i.e., the S&P 500 is regularly updated to include companies with high market capitalization and it includes companies at all stages of growth, including lower and higher growth potential) was sufficient and did not accept the challenge to this assumption.[159]
- The expected market return is reasonable and consistent with the range of annual equity returns that have been observed over the past century, whereby the realized equity return over this period was at least as high as my market return or greater in 51 out of the past 97 years (i.e., 53 percent).[160] Similarly, the market return in my updated CAPM analysis is 12.65 percent, which is also less than the realized equity returns in over 50 percent of the last 97, thus demonstrating it is a reasonable expectation for the market.
- In 2015, the Federal Reserve Bank of New York studied 20 methodologies over the period 1960 through 2013 for estimating the market risk premium which produced a market risk premium range of -1.0 percent to 14.5 percent. The results of this study demonstrate that my market risk premium estimates of 8.03 percent to 8.12 percent, which are calculated using my market return estimate of 12.22 percent, are reasonable. Similarly, the study also provides support for my market risk premium estimates of 8.15 percent to 8.35 percent in my updated cost of equity analyses as shown on in Exhibit AEB-R-3.

For all of these reasons, there is no basis to Dr. Woolridge's contention that the market return or market risk premia in my cost of equity analyses are overstated.

[159] *MISO Transmission Owners et al. v. FERC*, 45 F.4th 248, 260 (D.C. Cir. 2022).

[160] Bulkley Direct at 73:1-6.

Q: DR. WOOLRIDGE CLAIMS THAT YOUR MARKET RETURN IS OVERSTATED BY REFERENCING A LONG-TERM AVERAGE GROWTH RATE OF 4.00 TO 4.50 PERCENT.[161] IS THIS CONSISTENT WITH HIS OWN CAPM ANALYSIS?

A. No. While Dr. Woolridge contends that the market return in my CAPM analysis is too high by referencing a long-term average growth rate of 4.00 to 4.50 percent, his own CAPM analysis relies on an implied market return that is significantly higher than his referenced long-term average growth rate, thus invalidating his critique. Figure AEB-R-25 summarizes the sources of Dr. Woolridge's market risk premia, the implied market returns for each of those sources, and the implied long-term EPS growth rate of the market of each of those sources. As shown, Dr. Woolridge's four market risk premium estimates imply market returns that range from 7.90 percent to 9.68 percent. After removing the market dividend yield from the market return, the implied long-term average market growth rates range from 6.22 percent to 7.99 percent. These market growth rates are all substantially higher than the benchmark growth rate of 4.00 percent to 4.50 percent Dr. Woolridge suggests that demonstrates that my market return is too high. Therefore, while Dr. Woolridge relies on these four sources to allege that my market return is too high, ironically, that same data invalidates his own CAPM analysis.

[161] Woolridge Direct at 74:4-75:3.

Figure AEB-R-25: Inconsistency between Dr. Woolridge's Long-Term Market Growth Rates in his CAPM Relative to his Claimed Long-Term Market Growth Rates

	Dr. Woolridge's Source of Market Risk Premium			
	Kroll **Normalized**	**Prof. Damodaran**	**KPMG**	**J.P. Morgan**
Market Risk Premium	5.00%	4.12%	5.00%	4.40%
Plus: Risk-Free Rate	4.68%	4.53%	4.38%	3.50%
Implied Market Return	9.68%	8.65%	9.38%	7.90%
Avg. Dividend Yield of Market	1.63%	1.63%	1.63%	1.63%
Dr. Woolridge's Implied Long-Term Market EPS Growth Rate in CAPM	7.99%	6.97%	7.69%	6.22%
Dr. Woolridge Claimed Long-Term Market EPS Growth Rate		4.00% - 4.50%		

Q: DO YOU AGREE WITH DR. WOOLRIDGE THAT THE COMPOUNDED ANNUAL RETURN ON THE U.S. STOCK MARKET FROM 1928-2023 OF APPROXIMATELY 10 PERCENT[162] IS A REASONABLE REPRESENTATION OF THE MARKET RETURN FOR THE PURPOSES OF CALCULATING THE MARKET RISK PREMIUM?

A. No. The compound annual return (i.e., the geometric average return) is useful under the circumstances where an analyst or investor may be interested in the holding period return; however, that is not the relevant return when estimating the market risk premium. Dr. Woolridge's suggested use of the compound annual return fails to consider that annual returns are independent observations, unrelated to the prior year return. In order to recognize the independent nature of the market returns from

[162] *Id.* at 67:7-8.

year to year, the appropriate measure is the arithmetic average. The compound annual return over the nearly 100-year historical time period does not recognize the wide range of returns over that period. Had Dr. Woolridge appropriately relied on the arithmetic average reported by *Kroll*, he would have reported an average market return from 1926 through 2023 of 12.04 percent,[163] which is generally consistent with the projected market return reflected in my CAPM analysis as updated with the most recent data.

Q: IS THERE SUPPORT FOR THE USE OF THE ARITHMETIC AVERAGE ANNUAL MARKET RETURN IN THE CALCULATION OF THE MARKET RISK PREMIUM?

A. Yes. *Kroll*, which is one of the sources that Dr. Woolridge relies on for his CAPM analysis, states the following on the use of the arithmetic versus geometric mean:

> The equity risk premium data presented in this book are arithmetic average risk premiums as opposed to geometric average risk. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building-block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number.
>
> This is because both the CAPM and building block approach are additive models, in which the cost of capital is the sum of its parts. The geometric average is more appropriate for reporting past performance because it represents the compound average return.[164]

[163] *Kroll*, Cost of Capital Navigator.

[164] 2022 SBBI Yearbook, *Kroll*, at 201.

Q: HAVE YOU RECALCULATED DR. WOOLRIDGE'S CAPM ANALYSIS TO ADDRESS YOUR CONCERNS WITH HIS ESTIMATE OF THE MARKET RISK PREMIUM?

A. Yes. As shown in Exhibit AEB-R-15, I have developed two adjusted versions of Dr. Woolridge's CAPM analysis. The first relies on the historical arithmetic average market return as reported by *Kroll* for the period 1926 through 2023,[165] and the second relies on the most current forward-looking market return as of the end of June 2024. As shown, the results of Dr. Woolridge's CAPM analysis are understated by approximately 205 basis points when the historical arithmetic average market return is utilized and understated by approximately 255 basis points when the forward-looking market return is utilized.

Q: OVERALL, HOW WOULD DR. WOOLRIDGE'S COST OF EQUITY ESTIMATES AND RECOMMENDED ROE CHANGE IF THE ADJUSTED RESULTS YOU HAVE DISCUSSED FOR BOTH HIS DCF AND CAPM ANALYSES WERE RELIED UPON?

A. As summarized in Figure AEB-R-26 (and as also reflected in Exhibit AEB-R-16), by making reasonable adjustments to Dr. Woolridge's DCF and CAPM analyses to address the issues that I have identified, and weighing the results of the DCF and CAPM equally, the resulting cost of equity is 10.55 percent, which is higher than the Company's requested ROE of 10.40 percent, and well above Dr. Woolridge's recommended ROE of 9.50 percent.

[165] While I do not agree with the use of the historical return on large company stocks as the estimate of the projected market return for the reasons discussed, this specification of the market risk premium is more appropriate than the estimates relied by Dr. Woolridge.

Figure AEB-R-26: Summary of Adjusted Cost of Equity Results[166]

	Panel A Proxy Group
DCF	10.25%
CAPM (Hist. Mkt. Return)	10.61%
CAPM (Fwd. Mkt. Return)	11.11%
Average	10.86%
Average DCF/CAPM	**10.55%**
Company Requested ROE	**10.40%**

E. ECAPM

Q: WHAT IS DR. WOOLRIDGE'S CRITIQUE OF THE USE OF THE ECAPM ANALYSIS?

A. Dr. Woolridge contends that the use of an adjusted beta in the ECAPM is duplicative and thus produces overstated results. In addition, Dr. Woolridge also states that he is not aware of any tests to show that the CAPM model underestimates the cost of equity for regulated utilities or that the ECAPM adjustment is necessary.[167]

[166] The adjusted results reflected in this figure are based on Dr. Woolridge's proxy group. As discussed herein, I also disagree with various aspects of Dr. Woolridge's proxy group; however, no changes to his proxy group have been made for purposes of the adjusted results of Dr. Woolridge's cost of equity analyses.

[167] Woolridge Direct at 65:20-66:9.

Q: DO YOU AGREE WITH DR. WOOLRIDGE THAT THE ECAPM INAPPROPRIATELY ADJUSTS THE BETAS AND THUS PRODUCES OVERSTATED RESULTS?

A. No. I disagree with Dr. Woolridge for the same reasons that I discussed previously in response to Mr. Gorman. In summary, the adjustment to beta by *Value Line* and the use of the ECAPM are not duplicative, but rather are correcting for two different factors in the CAPM.

Q: HAVE YOU PREVIOUSLY PRESENTED ACADEMIC STUDIES THAT HAVE USED ADJUSTED BETAS TO ESTIMATE THE ECAPM?

A. Yes. While Dr. Woolridge suggests that he is not aware of any tests that rely on adjusted betas in the ECAPM, I have referenced the Chrétien and Coggins (2011) study in prior rate proceedings in response to Dr. Woolridge that addresses this concern.[168] Specifically, Chrétien and Coggins (2011) studied the CAPM and its ability to estimate the risk premium for the utility industry in particular subgroups of utilities for a data set that included market data through the end of 2006.[169] Chrétien and Coggins considered the CAPM, the Fama-French three-factor model, and a model similar to the ECAPM. The study shows that the ECAPM significantly outperformed the traditional CAPM at predicting the observed risk premium for the various utility subgroups.

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[168] *See, e.g.*, Connecticut Public Utility Regulatory Authority, Docket No. 22-08-08, Direct Testimony of Ann E. Bulkley at 53:5-54:5 (Jan. 6, 2023).

[169] Stéphane Chrétien and Frank Coggins, "Cost of Equity For Energy Utilities: Beyond The CAPM," *Energy Studies Review*, Vol. 18, No. 2, (2011).

Additionally, as discussed previously, Litzenberger, Ramaswamy, and Howard (1980) found that the CAPM tends to understate the return for stocks such as utilities that have a beta less than 1.00.[170] To develop their analysis, the authors used historical (i.e., "raw") betas to estimate the "alpha" factor in the ECAPM. However, the authors also showed that an "alpha" factor can be derived for betas adjusted using the Blume procedure discussed above and the results of their analysis for raw betas. The Blume adjustment is shown in the following equation:

$$\beta_i = \omega\beta_{i(historical)} + (1 - \omega) \qquad [3]$$

Where:

βi = Adjusted Beta

βi [historical] = Raw Beta

ω = Blume Adjustment Factor (i.e., 0.67)

The estimate of "alpha" using Blume adjusted betas can be derived using the results presented in the "Raw Beta" section of Table 1 on page 380 and the equations on page 376:

$$a = a' - b'\left(\frac{1-\omega}{\omega}\right) = 0.326 - 0.330\left(\frac{0.33}{0.67}\right) = 0.163 \qquad [4]$$

Where:

a = estimated alpha factor for Blume adjusted Betas

a' = estimated alpha factor using raw betas

b' = estimated excess return over the risk-free rate using raw betas

Because the authors relied on monthly returns for stocks in the NYSE, the estimated "alpha" factor using adjusted betas of 0.163 percent must be annualized.[171] When

[170] Robert Litzenberger, *et al.*, "On the CAPM Approach to the Estimation of A Public Utility's Cost of Equity Capital." *The Journal of Finance*, Vol. 35, No. 2, at 369-383 (1980).

[171] (1.00163)^12-1=1.97 percent

annualized, the estimated "alpha" factor is 1.97 percent using Blume adjusted betas, which is consistent with the "alpha" factor relied on by Dr. Morin of 1 to 2 percent to develop the 0.25 and 0.75 factors included in the ECAPM that I rely on in both my direct and rebuttal testimonies. Therefore, the Litzenberger, *et al.* (1980) study shows that the adjustment to beta and the use of the ECAPM are not duplicative, but rather account for two different factors in the CAPM.

F. Bond Yield Plus Risk Premium

Q: WHAT IS DR. WOOLRIDGE'S POSITION REGARDING YOUR BOND YIELD PLUS RISK PREMIUM ("BYRP" OR "RISK PREMIUM") ANALYSIS?

A. Dr. Woolridge disagrees with the Risk Premium approach because: (1) he contends that the analysis is a gauge of commission behavior rather than investor behavior; (2) he disagrees with the use of projected Treasury yields; (3) he suggests that regulatory commissions have been setting ROEs above the cost of equity for decades, which invalidates the use of the underlying time series data; and (4) he claims that the analysis is flawed because it relies on data for all electric utilities rather than just distribution electric utilities.[172]

Q: DO YOU AGREE WITH DR. WOOLRIDGE THAT THE RISK PREMIUM METHODOLOGY IS NOT VALID BECAUSE IT DOES NOT MEASURE INVESTOR BEHAVIOR?

A. No. First, it is important to recognize the inconsistency in Dr. Woolridge's consideration of previously authorized ROEs. On the one hand, Dr. Woolridge

[172] Woolridge Direct at 80:17-81:17.

suggests that my BYRP analysis cannot be relied upon because the authorized ROEs are reflective of regulatory commission behavior and not investor behavior; however, on the other hand, he devotes an entire section of his testimony to an analysis of the same data that I use in my BYRP analysis (i.e., authorized ROEs and 30-year Treasury bond yields),[173] and upon which he also relies as support for his recommended ROE. Therefore, while Dr. Woolridge suggests that my BYRP analysis cannot be considered because it reflects other factors such as capital structure, credit ratings, and other risk measures used by regulatory commissions to determine appropriate ROEs, he disregards these concerns when he relies on this data to support his ROE recommendation.[174] Furthermore, Dr. Woolridge's analysis relies on a much shorter time-period of authorized ROE data (i.e., 2010-2023) and fails to consider the differences between capital market conditions over the time period he has reviewed and current market conditions. Therefore, Dr. Woolridge's criticism of my BYRP analysis is inconsistent with his own reliance on interest rate and authorized ROE data to support his own ROE recommendation.

Q: WHY IS IT IMPORTANT TO CONSIDER THE RELATIONSHIP BETWEEN AUTHORIZED ROES AND TREASURY BOND YIELDS?

A. It is unquestionable that both credit rating agencies and investors consider the authorized ROE data in their determination of the valuation of utility stocks. Therefore, the relationship between recently authorized ROEs and the prevailing

[173] *Id.* at 15:1-21:17.

[174] *Id.* at 60:21-61:25.

interest rates at the time that the ROE was authorized is reasonable to consider when setting the ROE in the context of a rate proceeding. To the extent that the returns in a jurisdiction are lower than the returns that have been authorized more broadly, credit rating agencies will consider this in the overall risk assessment of the regulatory jurisdiction in which the company operates.

Q: DO YOU AGREE WITH DR. WOOLRIDGE'S CONTENTION THAT THE BYRP ANALYSIS CANNOT BE RELIED UPON BECAUSE IT RELIES ON PROJECTED TREASURY BOND YIELDS THAT ARE ALWAYS FORECASTED TO INCREASE?[175]

A. No. Dr. Woolridge's criticism mischaracterizes the analysis that I developed in my direct testimony. As shown in my direct testimony as well as on Exhibit AEB-R-6, I have relied on both a current Treasury bond yield (i.e., the current 30-day average of the 30-year Treasury bond yield), as well as two projections from the *Blue Chip Financial Forecast* in the BYRP analysis. Thus, Dr. Woolridge's suggestion that I have only relied on projected Treasury bond yields is incorrect. Further, as shown on Exhibit AEB-R-6, the near-term and long-term projections of the yield on the 30-year Treasury bond are lower than the current 30-day average of the 30-year Treasury bond yield, which demonstrates Dr. Woolridge's conclusion that Treasury bond yield are always forecasted to increase is incorrect.

[175] *Id.* at 81:6-10.

Q: IS DR. WOOLRIDGE'S CONTENTION REASONABLE THAT YOUR BYRP ANALYSIS CANNOT BE RELIED ON BECAUSE IT RELIES ON AUTHORIZED ROES AND THE WERNER AND JARVIS STUDY (2022) SHOWED THAT AUTHORIZED ROES HAVE HISTORICALLY CONSISTENTLY EXCEEDED THE COST OF EQUITY FOR UTILITIES?

A. No. The Werner and Jarvis (2022) study is based on several assumptions that do not hold, including: (1) a 1-to-1 relationship between yields on Treasury bonds and changes in authorized returns; (2) that the form of the CAPM they rely on produces accurate results under all market conditions; and (3) the assumption that there is no difference in the regulatory environment between the US and United Kingdom ("UK"). Given that these assumptions do not hold, the study cannot be relied upon to demonstrate that authorized ROEs in the US overstate the cost of equity.

First, the study's benchmarking of authorized returns to corporate and Treasury bond yields incorrectly assumes that a 1 percentage point change in the yield on Treasury bonds will result in a 1 percentage point change in the authorized returns. However, the authors did not provide any references to studies to support this assumption. Further, when the study calculated an alternative scenario that assumed the authorized return would change at only half the rate of change in the Treasury yield (i.e., a 100 basis point increase in the Treasury yield would result in a 50 basis point increase in the authorized ROE), the spread between the estimated benchmark returns and the authorized returns decreased significantly and did not show an increasing trend over the study period.

Second, the study's comparison of authorized returns to the cost of equity estimates of the CAPM relies entirely on the authors' selected data inputs being the

correct inputs to estimate the CAPM, as well as the assumption that the CAPM will produce accurate results under all market conditions. This assumption is highly unlikely particularly since Werner and Jarvis rely on two CAPM analyses that consider different inputs – and specifically acknowledge that "[s]eemingly objective methods like the capital asset pricing model cannot provide a definitive answer on the cost of equity."[176] For example, the first CAPM analysis resulted in a spread between the estimated cost of equity and the authorized return of 5.60 percentage points in 2020, while the second CAPM analysis produced a spread of only 0.786 percentage points.[177] In addition, while the authors estimate that the approved ROEs have been higher than various benchmarks and historical relationships suggest, they acknowledge that their results are "necessarily uncertain."[178]

Finally, it is not reasonable to draw conclusions from a comparison of the authorized returns of electric and natural gas utilities in the US to the returns authorized for utilities in the UK without considering the effect that the different regulatory and capital market environments have on the business risk of the utilities and investor return requirements. As Werner and Jarvis acknowledge, "there are many differences between the utility sector and investor environment in the US and UK."[179] Werner and Jarvis have not considered the effect of the regulatory environment on the cost of equity for the electric and natural gas utilities in either

[176] Karl Dunkle Werner and Stephen Jarvis, "Rate of Return Regulation Revisited," Working Paper, Energy Institute, University of California at Berkeley, at 36 (2022).

[177] *Id.* at 26.

[178] *Id.* at 35.

[179] *Id.* at 28.

the UK or US; therefore, it is not reasonable to conclude that the authorized ROEs in the US are too high based on a comparison to the returns authorized to utilities in the UK. As a result, given the limitations of the Werner and Jarvis (2022) study, it is not reasonable for Dr. Woolridge to use this study to conclude that prior authorized returns for utilities have exceeded the cost of equity.

Q: DO YOU AGREE WITH DR. WOOLRIDGE THAT AUTHORIZED ROES ARE ABOVE INVESTORS' REQUIRED RETURNS BECAUSE THE MARKET-TO-BOOK RATIOS FOR ELECTRIC UTILITIES ARE GREATER THAN 1.0?

A. No. There are several reasons why the market-to-book ratio for utilities may exceed 1.0 other than the ROE exceeding the cost of equity. For example, Dr. Lawrence Kolbe and Dr. Michael Vilbert outlined a few factors in a 2016 presentation to the CPUC titled "Moving Toward Value in Utility Compensation Shareholder Value Concept." As Drs. Kolbe and Vilbert noted, even if one assumes that the theory of the Efficient Market Hypothesis ("EMH") holds,[180] there are several important conditions that must hold before one can assume that the ROE equals the cost of equity at a market-to-book ratio of 1.0 for regulated utilities. Those conditions include:

- A utility has to be regulated on rate base identical to its GAAP book value.
- A utility has to have 100 percent regulated operations.
- The regulatory system has to be in full equilibrium (i.e., there cannot be a lag in the adjustment of the authorized ROE to the market cost of equity); and,

[180] The theory of the EMH contends that all information that is currently known by investors is already reflected in current stock prices. See Shiller, R. J. (1981). Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends? *The American Economic Review*, Vol. 71, No. 3, at 421-436.

- The ROE expected, on average, has to equal the authorized ROE.[181]

As Drs. Kolbe and Vilbert concluded, it is very unlikely that all of these conditions will be satisfied. For example, changes in cost trends or regulatory lag can cause a utility to earn more or less than the allowed return, and if the expected return deviates from the allowed return, then the allowed return will not equal the cost of equity and the market-to-book ratio will not equal 1.0.

Moreover, as also noted by Dr. Kolbe and Dr. Vilbert: (1) there is no consensus among economists regarding whether the theory of the EMH holds and share prices are rationally priced; and (2) even if the EMH holds, there is also no consensus regarding which model (i.e., DCF, CAPM, ECAPM) produces reasonable estimates of the cost of equity. In fact, Nobel Prize-winning economist Dr. Robert Shiller and others have provided compelling evidence against the EMH, concluding that share prices are not rationally priced, and that the DCF model does not fully explain changes in share prices and thus will not accurately estimate the required return of investors.[182] There are numerous practical examples supporting this position (e.g., large sudden declines in the market such as Black Monday in 1987, the Great Recession of 2008/09, the COVID-19 crash in March 2020, and the "tech bubble" of the late 1990s) that cannot be explained by new information regarding dividends.[183]

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[181] A. Lawrence Kolbe, Ph.D. and Michael J. Vilbert, Ph.D., "Moving Toward Value in Utility Compensation Shareholder Value Concept, Presented to the California Public Utilities Commission, (Jun. 13, 2016).

[182] R. J. Shiller, "Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends?," *The American Economic Review*, 1981, Vol. 71, No. 3, at 42-436.

[183] *See also*, R. J. Shiller, "From Efficient Markets Theory to Behavioral Finance," *Journal of Economic Perspectives*, 2003, Vol. 17, No. 1, at 83–104. Dr. Shiller contended that there were "asset

VIII. RESPONSE TO MS. PERRY

Q: PLEASE SUMMARIZE MS. PERRY'S TESTIMONY REGARDING THE COMPANY'S PROPOSED ROE?

A. Ms. Perry does not conduct an ROE analysis and does not provide a specific ROE recommendation for the Company in this proceeding. Rather, Ms. Perry recommends that the Commission closely examine the Company's proposed ROE in light of (1) the Company's currently authorized ROE; and (2) authorized ROEs in Texas and other jurisdictions nationally since 2021.[184]

Q: WHAT IS YOUR RESPONSE TO THE DATA THAT MS. PERRY HAS PROVIDED FOR THE COMMISSION'S CONSIDERATION REGARDING ROES THAT HAVE BEEN AUTHORIZED SINCE 2021?

A. Ms. Perry's analysis of authorized ROEs suffers from several flaws. While Ms. Perry is correct to limit the sample companies to distribution-only electric utilities, her sample incorrectly includes the authorized returns for companies that were determined as part of an annual formula rate filings, fails to consider the market conditions at the time of the rate proceeding, and fails to consider the authorized capital structure, and therefore differences in the financial risk resulting from the regulatory decisions that she contends reflect national trends.

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bubbles" such as the "tech boom" from 1994 to 2000 that resulted in substantial increases in share prices that could not be explained by market fundamentals.

[184] Perry Direct at 5:19-21.

Q: WHY IT IS IMPORTANT TO EXCLUDE FORMULA RATEMAKING CASES FROM THE AUTHORIZED ROE DATA THAT IS CONSIDERED IN SETTING THE RETURN FOR CENTERPOINT HOUSTON?

A. ROEs that are established pursuant to a formula should be excluded from any analysis concerning CenterPoint Houston because these regulatory constructs are inconsistent with the form of regulation relied upon by this Commission in setting the Company's authorized ROE. In particular, the Illinois formula rate proceedings reflect annual revenue requirement changes that included all capital investment incurred in the prior year, rather than the traditional ratemaking structure employed in Texas. Therefore, returns established under formula rate plans are not comparable to Texas regulation and should not be considered in setting the ROE for CenterPoint Houston.

Q: DO YOU AGREE WITH MS. PERRY'S REVIEW OF AUTHORIZED ROES SINCE 2021 AS A BASIS FOR COMPARISON TO THE COMPANY'S CURRENT COST OF EQUITY?

A. No. Ms. Perry's review of authorized ROEs over this time period fails to consider that market conditions have changed dramatically over this period. As discussed previously herein, since the Company's last rate case, the following significant changes have occurred to macroeconomic indicators that affect the cost of equity:

- The federal funds rate has increased nearly 295 basis points.
- The yield on the 30-year Treasury bond has increased nearly 160 basis points.
- The yield on the Moody's Baa utility bond index has increased nearly 135 basis points.
- Core inflation is currently higher by more than 100 basis points.

These factors demonstrate that directionally, the cost of equity has increased. As shown in Exhibit AEB-R-6, the long-term relationship between authorized ROEs and Treasury bond yields demonstrates that as interest rates increase, the authorized ROE has increased by approximately 58 percent. This historical relationship generally supports the Company's requested ROE.

Q: HOW DO CURRENT MACROECONOMIC INDICATORS COMPARE TO THE MARKET CONDITIONS AT THE TIME OF THE COMMISSION'S DECISIONS IN THE OTHER TEXAS CASES THAT MS. PERRY HAS SUMMARIZED?

A. First, it is important to note that in the cases for El Paso Electric (Docket No. 52195) and Entergy Texas (Docket No. 53719) the ROE was determined in the context of a broader settlement agreement. While the Commission approved the settlements, the Commission did not expressly determine the ROE in those proceedings. Figure AEB-R-27 summarizes market conditions for the remaining two Commission decisions referenced by Ms. Perry beginning in 2021. As shown, interest rates continued to increase significantly over this time period.

Figure AEB-R-27: Summary of Market Conditions for Recent Texas Rate Proceedings

Company	Docket	Filing Date	Federal Funds Rate	30-Day Avg 30-Year Treasury Bond Yield	30-Day Avg Moody's Baa-rated Utility Bond Yield	Core Inflation Rate	Auth'd ROE
SWEPCO	51415	11/18/2021	0.08%	2.01%	3.28%	4.97%	9.25%
Oncor Energy Delivery	53601	3/9/2023	4.57%	3.82%	5.57%	5.56%	9.70%

Q: SHOULD MS. PERRY HAVE ALSO EVALUATED THE AUTHORIZED CAPITALIZATION IN THE ANALYSIS THAT SHE PRESENTED REGARDING NATIONAL TRENDS IN AUTHORIZED ROES?

A. Yes. Capitalization affects the overall financial risk of the company. To the extent that a company has greater leverage, there is increased risk to equity, since equity holders are the last claimants in the event of the dissolution of the company. Further, creditors and credit rating agencies also consider the overall leverage in their determination of the overall risk profile of a company. Credit rating agencies use various funds from operations-to-debt metrics, which are affected by the overall capitalization of the company, in establishing their credit ratings. An analysis that considers only the ROE without consideration of the differences in financial risk, is flawed and cannot be relied upon to determine an appropriate ROE. This is of particular importance in this proceeding, where there is a significant difference between the Company's equity ratio and the average equity ratio of the proxy group entities.

Q: HAVE YOU CONDUCTED SUCH AN ANALYSIS?

A. Yes. As shown in Exhibit AEB-14 to my direct testimony, the utility operating companies of the proxy group companies have an equity ratio on average of approximately 52.42 percent, which means that, given the Company's proposed equity ratio of 44.90 percent, the Company would have significantly greater leverage than the proxy group on average. As discussed in my direct testimony, this difference in the capitalization of the company results in significantly greater risk for CenterPoint Houston than the proxy group.

Q: HAS MS. PERRY REVIEWED THE CAPITALIZATION OF THE COMPANIES IN HER NATIONALLY AUTHORIZED ROE ANALYSIS?

A. Yes. While Ms. Perry does not suggest that the Commission consider this information, as shown in Exhibit LVP-2, and summarized below in Figure AEB-R-28, Ms. Perry provides the average equity ratios for the same group of companies that she includes in her review of authorized ROEs. As shown in Figure AEB-R-28, the range of authorized ROEs has been significantly higher than the return authorized in CenterPoint Houston's last rate proceeding. Further, it is important to note that equity ratios are also significantly higher than the Company's proposed equity ratio. For example, in 2023, the mean equity ratio was *630 basis points higher* than the Company's requested equity ratio, demonstrating that the Company's capital structure, if approved as requested, represents significantly greater financial risk than the capital structures that have been authorized for distribution electric utilities in other regulatory jurisdictions across the country.

Figure AEB-R-28: National Trends: Summary of Authorized ROEs and Equity Ratios[185]

	Authorized ROEs				Equity Ratio			
	Mean	Median	Min	Max	Mean	Median	Min	Max
2021	9.39%	9.32%	9.00%	9.70%	48.72%	49.21%	43.43%	50.68%
2022	9.47%	9.50%	9.00%	10.00%	50.58%	50.50%	48.00%	53.87%
2023	9.33%	9.35%	9.20%	9.60%	49.07%	49.50%	48.00%	53.00%
2024	9.60%	9.60%	9.60%	9.60%	51.20%	51.20%	50.50%	51.90%

Q: WHAT ARE YOUR CONCLUSIONS REGARDING MS. PERRY'S ANALYSIS AND HER RECOMMENDATION TO THE COMMISSION?

A. Ms. Perry has not conducted a market-based, risk-comparable analysis of the investor required ROE in the current market environment for an investment in CenterPoint Houston. Therefore, her recommendations to the Commission lack the analytical rigor necessary to inform their decision on the appropriate ROE for the Company. Further, Ms. Perry's analysis of recently authorized ROEs fails to consider critical differences between the decisions that she summarizes and the current circumstances, specifically, the differences in market conditions at the time that the ROEs she has reviewed were authorized, and the differences in overall financial risk faced by CenterPoint Houston as a result of its capitalization as compared to the national trends in capitalization. For all of these reasons, I recommend that Ms. Perry's testimony be afforded no weight in the determination of the ROE or equity ratio for CenterPoint Houston.

[185] *See id.*, Exhibit LVP-2.

IX. CAPITAL STRUCTURE

Q: WHAT HAVE PARTIES RECOMMENDED REGARDING THE APPROPRIATE CAPITAL STRUCTURE FOR THE COMPANY?

A. The parties in this proceeding have recommended the following regarding the appropriate capital structure for the Company:

- Mr. Filarowicz recommends an equity ratio of 42.5 percent, stating that the Commission's conclusions in its decision in Docket No. 22344, which resulted in a capital structure for transmission and distribution only electric utilities consisting of 60 percent long-term debt and 40 percent equity, are still relevant in the current market.[186] In addition, Mr. Filarowicz states that many other electric transmission and distribution utilities ("TDUs") in Texas also have the same authorized capital structure, including Oncor, which the Commission authorized in June 2023 in a fully litigated proceeding.[187]
- Mr. Gorman proposes a capital structure consisting of 42.50 percent common equity and 57.50 percent long-term debt.[188] Mr. Gorman opposes the Company's proposed capital structure because:
  - Despite its large capital program that may strain its credit metrics during the period in which significant capital will be expended, the Company's proposed 44.9 percent equity ratio is not necessary to support the Company's current bond rating and access to capital.[189]
  - Increasing the equity ratio would increase customer costs and disregard the Company's need to manage customer affordability.[190]
  - The average common equity ratio for the proxy group of 40.6 percent including short-term debt, and 44.1 percent excluding short-term debt, is comparable to his proposed equity ratio for the Company of 42.50 percent.[191]
- Mr. Mac Mathuna recommends a 42.50 percent ratemaking equity ratio because:

[186] Filarowicz Direct at 30:1-31:21.

[187] *Id.* at 28:11-15.

[188] Gorman Direct at 36:20-37:3.

[189] *Id.* at 29:1-30:23.

[190] *Id.* at 27:13-15.

[191] *Id.* at 39:22-40:2.

- The Company's proposed equity ratio of 44.9 percent exceeds the median and average of the actual equity ratios of Dr. Woolridge's proxy group (i.e., 44.4 percent and 44.0 percent, respectively) and of my proxy group (i.e., 44.0 percent and 43.9 percent, respectively).[192]
- The Company's requested equity ratio is greater than the actual equity ratio of its parent, CNP, in 2023 of 35.5 percent in 2023, as well as its projected equity ratio through 2028.[193]
- The Company's currently authorized equity ratio is consistent with the Commission's most recent rate decision for Oncor, also a TDU.

- Dr. Woolridge does not propose a specific capital structure for the Company, but rather relies on the recommendation of Mr. Mac Mathuna. Nonetheless, Dr. Woolridge calculates the average actual equity ratios at the holding company for his proxy group and my proxy group.[194]

Q: HAS MR. FILAROWICZ EVALUATED THE FINANCIAL RISK OF CENTERPOINT HOUSTON RELATIVE TO THE PROXY GROUP?

A. No. Mr. Filarowicz has not compared his recommended equity ratio to the proxy group to assess the financial risk of CenterPoint Houston relative to the companies in his proxy group. Mr. Filarowicz contends that the Commission's conclusions in Docket No. 22344 from December 2000 as to the capital structures for TDUs remain for two reasons: (1) there are several mechanisms by which the Company can timely recover its transmission and distribution investments; and (2) the factors outlined in the Commission's report to the Texas Legislature in January 2017 reflect the low-risk environment for TDUs operating in ERCOT. In fact, Mr. Filarowicz states that, the Commission should not consider the capital structures of the proxy group companies.[195]

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[192] Mac Mathuna Direct at 9:11-10:9.

[193] *Id.* at 11:5-6.

[194] Woolridge Direct at 24:16-19.

[195] Filarowicz Direct at 33:19-34:10.

Q: WHY DOES MR. FILAROWICZ RECOMMEND THAT THE COMMISSION NOT CONSIDER THE CAPITAL STRUCTURE OF HIS PROXY GROUP COMPANIES?

A. Mr. Filarowicz states that, the Commission should not consider the capital structures of the proxy group companies because the proxy groups use data for holding companies, and not the operating utilities of those holding companies, and CenterPoint Houston is an operating utility of its holding company parent, CNP. In addition, Mr. Filarowicz states that the Commission has not typically considered the capital structures of the companies in the proxy group when determining appropriate authorized regulatory capital structures for electric utilities.[196]

Q: ARE EITHER OF THE REASONS NOTED BY MR. FILAROWICZ TO SUPPORT HIS POSITION THAT THE COMMISSION SHOULD NOT CONSIDER THE CAPITAL STRUCTURES OF THE PROXY GROUP COMPANIES REASONABLE?

A. No. First, I agree with Mr. Filarowicz that the Commission should not consider the actual capital structures of the proxy group holding companies because the companies most comparable to CenterPoint Houston are the utility operating subsidiaries of the holding companies in the proxy group. This is the reason that I evaluated the capital structures of utility operating subsidiaries in Exhibit AEB-13 in my direct testimony. However, Mr. Filarowicz has not conducted any analysis of the holding companies or their utility operating subsidiaries, and nor has he suggested that the analysis in Exhibit AEB-13 should not be considered. The

[196] *Id.*

determination of the ROE is based on the expected return for a proxy group of companies that are generally comparable in risk to CenterPoint Houston. The equity ratio is a measure of the financial risk of the company, and the authorized ROE is the return to compensate investors for that risk. Since Mr. Filarowicz relies on the cost of equity estimates for the proxy group companies to establish his recommended ROE for the Company, it is important that the financial risk of CenterPoint Houston be similar to the financial risk of the proxy group. Therefore, Mr. Filarowicz is inconsistent in his assessment of financial risk. If Mr. Filarowicz had been consistent in his approach, he would have compared his proposed equity ratio to the average equity ratio of the proxy group to assess the financial risk of CenterPoint Houston to the proxy group.

Second, simply because the Commission has not typically considered the capital structures of the companies in the proxy group provides no basis for why the Commission should not consider the capital structures of the operating utility subsidiaries of the proxy group companies when establishing the capital structure for the Company in this proceeding.

Q: IS MR. GORMAN'S EVALUATION OF THE COMPANY'S PROPOSED EQUITY RATIO IN THIS PROCEEDING CONSISTENT WITH HIS EVALUATION OF THE PROPOSED EQUITY RATIO IN OTHER RECENT PROCEEDINGS?

A. No. Mr. Gorman's evaluation of the Company's proposed equity ratio in this proceeding differs in three material respects from his recent testimony in March 2024 in the CenterPoint Energy Indiana South ("CEI South") proceeding. Specifically, in that recent proceeding, Mr. Gorman:

- Evaluated the median and average authorized equity ratios over the past decade.[197]
- Considered the median S&P adjusted debt ratio by credit rating for the utilities classified by *Value Line* as either electric, natural gas or water utilities in determining his recommended capital structure.[198]
- Proposed a specific basis point adjustment to his recommended ROE to account for his contention regarding CEI South's proposed equity ratio relative to the average actual equity ratio for the proxy group.[199]

Inexplicably, Mr. Gorman has done none of these things in the current proceeding when evaluating the Company's proposed equity ratio and recommending his own equity ratio. However, the information previously presented by Mr. Gorman demonstrates that the Company's proposed equity ratio of 44.9 percent is reasonable.

Q: IN HIS RECENT TESTIMONY IN THE CEI SOUTH PROCEEDING, WHAT DID MR. GORMAN CONCLUDE REGARDING THE AUTHORIZED EQUITY RATIOS FOR ELECTRIC UTILITIES?

A. Figure AEB-R-29 presents Mr. Gorman's analysis of previously authorized equity ratios for electric utilities that he presented in his testimony in the CEI South rate proceeding. Based on this analysis, Mr. Gorman concluded that, "the industry average and median common equity ratios for electric utilities over the last 10 years have been consistently about 50.00% - 52.00%."[200] Therefore, based on Mr. Gorman's own recent evaluation of historical authorized equity ratios for

[197] Indiana Utility Regulatory Commission, Cause No. 45990, Direct Testimony of Michael P. Gorman at 60 (Table 12).

[198] *Id.* at 62 (Table 13).

[199] *Id.* at 99:2-14.

[200] *Id.* at 59:1-13.

electric utilities, the Company's proposed equity ratio of 44.9 percent is well below the range of average and median authorized equity ratios since 2013.

Figure AEB-R-29: Mr. Gorman's Analysis of Authorized Common Equity Ratios for Electric Utilities Since 2013[201]

	Electric[1]	
Year	Average	Median
(1)	(2)	(3)
2013	50.12%	51.03%
2014	50.28%	50.00%
2015	50.24%	50.48%
2016	49.70%	49.99%
2017	50.02%	49.85%
2018	50.60%	50.23%
2019	51.55%	51.37%
2020	50.94%	51.17%
2021	51.01%	52.00%
2022	51.50%	51.92%
2023	51.59%	52.27%
Min	49.70%	49.85%
Max	51.55%	52.00%
Average	50.60%	50.80%
Median	50.44%	50.75%

Q: DOES THE ANALYSIS MR. GORMAN CONDUCTED REGARDING THE MEDIAN S&P ADJUSTED DEBT RATIO FOR UTILITIES BY CREDIT RATING ALSO SUPPORT THE COMPANY PROPOSED EQUITY RATIO?

A. Yes. Mr. Gorman has in many prior proceedings considered the median S&P adjusted debt ratio by credit rating for the utilities classified by *Value Line* as either electric, natural gas or water utilities in determining his recommended capital

[201] S&P Global Market Intelligence; data through December 31, 2023; Excludes Arkansas, Florida, Indiana, and Michigan because they include non-investor capital.

structure. For example, the analysis that he presented three months ago in his testimony in the CEI South proceeding is shown in Figure AEB-R-30.[202] As discussed in my direct testimony, CenterPoint Houston is currently rated BBB+ by S&P and is proposing a capital structure that consists of 55.10 percent debt and 44.90 percent equity. Therefore, based on Mr. Gorman's recent analysis shown in Figure AEB-R-30, the median debt ratio for a company with an S&P credit rating of BBB+ was 50.8 percent – *which is substantially lower than the Company's proposed debt ratio of 55.10 percent.*

Figure AEB-R-30: Mr. Gorman's Calculation of the Median S&P Adjusted Debt Ratio by Credit Rating for the Utilities classified by *Value Line* as Either, Natural Gas, or Water Utilities

		% Distribution of 3-Year Average				Utilities
Rating	Median	<45	45 to 50	50 to 55	>55	Per Category
AA-	42.7%	100%	0%	0%	0%	1
A+	55.4%	25%	13%	25%	38%	3
A	46.8%	28%	36%	17%	19%	12
A-	51.4%	11%	31%	50%	9%	38
BBB+	50.8%	6%	34%	50%	10%	27
BBB	52.5%	16%	22%	36%	27%	15

Q: IS MR. GORMAN'S AND MR. MAC MATHUNA'S USE OF THE UTILITY HOLDING COMPANY EQUITY RATIOS AS A COMPARISON TO THE COMPANY'S PROPOSED CAPITAL STRUCTURE ACCURATE?

A. No. There are two problems with Mr. Gorman's and Mr. Mac Mathuna's comparisons of the Company's proposed equity ratio to the equity ratios of the proxy group holding companies. First, it is not appropriate to compare the projected

[202] Indiana Utility Regulatory Commission, Cause No. 45990, Direct Testimony of Michael P. Gorman at 62 (Table 13).

equity ratio of the Company to the average equity ratio of the proxy group at the holding company level. Second, even though it is not appropriate, if the capital structures at the holding company level are considered, the market value of debt and equity must be used to estimate the percentage of debt and equity in the capital structure, not the book value of debt and equity.

Q: WHY IS IT INAPPROPRIATE TO RELY ON THE HOLDING COMPANY CAPITAL STRUCTURES TO ESTABLISH THE CAPITAL STRUCTURE FOR THE OPERATING COMPANIES?

A. The holding company data on which these witnesses rely includes corporate-level debt that is not part of the regulated or financial capital structure of the operating utilities. The relevant capital structure for comparison purposes to the Company is at the operating company level, not the holding company. The Commission should establish rates in this proceeding based on CenterPoint's Houston's capital structure on a stand-alone basis. Therefore, it is reasonable and appropriate to rely on the operating company capital structures that have been used to fund utility operations for the comparison of the Company to other electric utilities.

Q: IS THE COMPANY'S PROPOSED EQUITY RATIO REASONABLE WHEN COMPARED WITH THE EQUITY RATIOS OF THE OPERATING UTILITIES OF THE PROXY GROUP HOLDING COMPANIES?

A. Yes. As shown in Exhibit AEB-14 of my direct testimony, the Company's proposed equity ratio is approximately *740 basis points below* the average actual equity ratio of the operating utilities of the proxy group companies.

Q: WHY IS IT INAPPROPRIATE TO RELY ON THE BOOK VALUE OF THE CAPITAL STRUCTURES OF THE PROXY GROUP COMPANIES AT THE HOLDING COMPANY LEVEL FOR THEIR COMPARISON TO THE COMPANY'S PROPOSED CAPITAL STRUCTURE?

A. The use of the book value of debt and equity for the proxy group companies at the holding company level creates a mismatch between the capital structure data that is being used to determine the reasonableness of the Company's equity ratio and the data that is being used in the models to determine the cost of equity for the Company. For example, Mr. Filarowicz, Mr. Gorman, and Dr. Woolridge consider a DCF model to determine the cost of equity for the Company and estimate the dividend yield based on the expected dividends of the proxy group companies and their respective current stock prices – which is the current *market value* of their equity. Similarly, both Mr. Gorman and Dr. Woolridge (and Mr. Filarowicz previously) also rely on the CAPM to estimate the cost of equity for the Company, and in doing so, rely on beta coefficients – which reflect the returns of each proxy group company based on that company's respective *market value*. Therefore, the costs of equity developed by these witnesses is intended to represent the percentage return required by investors on the *market* value of equity not the *book* value.

Q: WHAT IS THE EFFECT OF RELYING ON THE REQUIRED RETURN ON THE MARKET VALUE OF EQUITY FOR ASSESSING THE COST OF EQUITY, BUT THEN THE BOOK VALUE OF DEBT AND EQUITY FOR ASSESSING THE CAPITAL STRUCTURE?

A. If the market value of debt and equity are substantially different than the book value of debt and equity, then the resulting cost of equity estimate would not reflect the

financial risk of the book value capital structure. This is illustrated in the following set of equations found readily in corporate finance textbooks.[203] As shown in Equation [3], the value of a company (or asset) is determined as follows:

$$V = D + E \qquad [3]$$

Where:

V = Market value of a company/asset

D = Market value of debt

E = Market value of equity

For simplicity, if it is assumed that there are no taxes, based on Equation [3], the total return on V can be estimated as follows:

$$r_V = \frac{D}{D + E} \text{ x } r_D + \frac{E}{E + D} \text{ x } r_E \qquad [4]$$

Where:

r_V = expected return on assets / weighted-average cost of capital

r_D - expected return on debt

r_E - expected return on equity

Then, Equation [4] can be rearranged into the following form to solve for the expected return on equity, r_E:

$$r_E = r_V + (r_V - r_D)\frac{D}{E} \qquad [5]$$

As shown in Equation [5], the expected return on the market value of equity is a function of the market debt-to-equity ratio. As the percentage of debt increases, the financial risk of the firm increases, and thus investors require a higher return to

[203] Richard Brealey, Stewart Myers, and Franklin Allen, *Principles of Corporate Finance,* 13th Ed., at 452-462 (2020).

compensate for the additional financial risk. Therefore, if the book debt-to-equity ratio for the proxy group is substantially different than market debt-to-equity ratio, the expected return on equity will also be substantially different.

Q: IS THE BOOK VALUE DEBT-TO-EQUITY RATIO DIFFERENT FROM THE MARKET VALUE DEBT-TO-EQUITY RATIO FOR THE PROXY GROUP?

A. Yes. As shown in Exhibit AEB-R-17, the average market value common equity ratio for the proxy group as of December 31, 2023 is 53.79 percent. Given that both Mr. Gorman and Dr. Woolridge estimate the cost of equity using the DCF and CAPM analyses based on the *market value* of their respective proxy group companies' equity, the costs of equity estimated by these witnesses for the proxy group reflect the financial risk of a *market value* common equity ratio of 53.79 percent based on Equation [5]. This means that the market value common equity ratio of the proxy group is significantly greater than the average book value equity ratios cited by Mr. Gorman of 44.1 percent (excluding short-term debt), [204] and by Mr. Mac Mathuna of 44.0 percent and 43.9 percent based on Dr. Woolridge's and my proxy groups, respectively. Likewise, when the analysis is done correctly, this also means that the Company's proposed equity ratio of 44.90 percent is also well *below* the average market value common equity ratio for the holding companies of the proxy group.

[204] Gorman Direct at 39:22-40:2.

Q: IS THERE A RELATIONSHIP BETWEEN THE ROE AND THE EQUITY RATIO?

A. Yes. As discussed in my direct testimony, as the equity ratio decreases, the remainder of the capital of the company is sourced through debt, thereby increasing a company's leverage and reducing its financial flexibility.[205] Higher leverage creates greater risk to equity, since debt has priority payment over equity in the event of the dissolution of a company. Therefore, as leverage increases, and the risk to equity holders of repayment increases, it is reasonable to expect that the investor-required return on equity would also increase.

Q: HAVE MR. GORMAN OR DR. WOOLRIDGE APPROPRIATELY CONSIDERED THEIR RECOMMENDED ROES GIVEN THE EQUITY RATIOS THAT THEY ARE ALSO RECOMMENDING?

A. No. Since the book value capital structures of the proxy group companies cited Mr. Gorman and Mr. Mac Mathuna have a greater amount of leverage (i.e., a higher proportion of debt than equity) than the proxy group means that they have relatively greater financial risk than a company with a higher proportion of equity and a lower proportion of debt. Given the greater financial risk implicit in the capital strucures proposed by Mr. Gorman and Mr. Mac Mathuna, investors would require a *higher* cost of equity than estimated by their respective DCF and CAPM analyses, which, as discussed, are based on market values – not book values. Therefore, by relying on a cost of equity estimate based on market values but a capital structure based on book values as Mr. Gorman and Dr. Woolridge have done, it causes them to

[205] Bulkley Direct at 8:2-5.

incorrectly conclude that an ROE reflecting the financial risk of the market value equity ratio would be sufficient to compensate investors for a much more highly levered capital structure based on book value.

Q: ARE YOU AWARE OF WHETHER MR. GORMAN AGREES WITH THE PRINCIPLE THAT HIGHER LEVERAGE CREATES GREATER RISK TO EQUITY HOLDERS?

A. Yes. In Mr. Gorman's testimony in the recent CEI South proceeding referenced previously, he testified that the use of an equity ratio that is above the industry average requires an adjustment to reduce the ROE.[206] As a result, in that proceeding, Mr. Gorman reduced his ROE recommendation for CEI South by 25 basis points accordingly. Therefore, it would be reasonable to expect that if Mr. Gorman were applying his financial theory consistently, he would be proposing an increase in his recommended ROE in this proceeding given that he is proposing an equity ratio that is below the average for the proxy group. However, Mr. Gorman has proposed no such increase to his recommended ROE for the Company in this case.

[206] Indiana Utility Regulatory Commission, Cause No. 45990, Direct Testimony of Michael P. Gorman at 5:10-6:17.

Q: DO MR. GORMAN'S AND MR. MAC MATHUNA'S OWN ANALYSES OF THE EQUITY RATIOS OF THE HOLDING COMPANIES IN THE PROXY GROUP DEMONSTRATE THAT THE COMPANY'S PROPOSED EQUITY RATIO IS REASONABLE?

A. Yes. While I do not agree with conducting a review of the capital structure for the proxy group at the holding company level for the reasons previously discussed, both Mr. Gorman's and Mr. Mac Mathuna's own analyses indicate that the Company's proposed equity ratio is reasonable. Specifically, Mr. Gorman states that his proxy group has an average common equity ratio of 44.1 percent (excluding short-term debt), and Mr. Mac Mathuna's analysis of the proxy group holding companies' actual equity ratios, which ranges from 44.0 percent to 44.4 percent depending on whether Dr. Woolridge's or my proxy group is used, respectively, demonstrates that the Company's proposed equity ratio of 44.9 percent is reasonable. Consequently, there is no basis to Mr. Mac Mathuna's contention that the actual equity ratios of either Dr. Woolridge's proxy group or my proxy group support his proposed equity ratio of 42.50 percent.

Q: IS DR. WOOLRIDGE'S ANALYSIS OF THE PROXY GROUP EQUITY RATIOS COMPARABLE TO THE COMPANY'S PROPOSED CAPITAL STRUCTURE?

A. No. Dr. Woolridge's comparison of the companies in his proxy group and my proxy group to the Company's proposed capital structure includes short-term debt. If the short-term debt is excluded, the equity ratio for Dr. Woolridge's and my proxy groups – at the holding company level would be higher than he currently reports.

Q: IS MR. MAC MATHUNA'S COMPARISON TO CNP'S CAPITAL STRUCTURE APPROPRIATE FOR SETTING THE COMPANY'S CAPITAL STRUCTURE IN THIS PROCEEDING?

A. No. Mr. Mac Mathuna's comparison of the Company's currently authorized and proposed equity ratios to CNP's actual equity ratio in 2023 and projected equity ratio over the next few years is not relevant. While Mr. Mac Mathuna suggests that the "broad disconnect" between how CNP and the Company are capitalized should be considered when the Commission considers the Company's proposed equity ratio,[207] he does not provide any explanation as to why considering CNP's capital structure is relevant or appropriate in this proceeding. In this proceeding, the cost of capital is being estimated for the Company on a stand-alone basis, consistent with the principles established by the U.S. Supreme Court in its *Hope* and *Bluefield* decisions. Accordingly, the financial risk of the individual operating company, which in this case is CenterPoint Houston, is considered on a stand-alone basis and is likely different than the financial risk of CNP as a more diversified holding company of many utility operating companies that have diversified regulatory oversight.

Further, Mr. Mac Mathuna's analysis does not take into consideration that this Commission has required ring-fencing provisions for the Company that are structured to insulate the Company from the financial risk at CNP or the Company's other affiliates.[208] Mr. Filarowicz is recommending that these ring-fencing

[207] Mac Mathuna Direct at 11:5-9.

[208] Filarowicz Direct at 42:15-44:16.

provisions be maintained, including CenterPoint Houston's proposed revisions, in order to continue to provide a degree of insulation between the Company and its parent and other affiliates. In addition, Mr. Mac Mathuna proposes to add two additional ring-fencing provisions, including a provision that ensures that CenterPoint Houston's assets may not be pledged to secure debt for other entities.[209] Therefore, given the Commission's deliberate implementation of provisions that are designed to ensure that the risks of CNP are not transferred to the Company, it is unreasonable to suggest that the Commission then rely on the capitalization of CNP in setting the Company's capitalization.

Further, it is important to recognize that evaluation of the financial risk that should be reflected in the capital structure is based on the use of funds at the operating company and the operating risk of that entity not the risk of the parent company or the source of the funds. Therefore, CNP's capital structure is neither appropriate nor relevant for determining the Company's capital structure in this proceeding.

Q: IS MR. GORMAN'S CONTENTION ACCURATE THAT THE COMPANY'S PROPOSAL TO INCREASE THE EQUITY RATIO IS UNNECESSARY TO SUPPORT ITS INVESTMENT GRADE BOND RATING AND SIGNIFICANT CAPITAL EXPENDITURES?

A. No. As shown in Table 6 of Mr. Gorman's testimony, the Company's actual equity ratio in 2023 was 44.5 percent, which is 200 basis points higher than its currently authorized equity ratio for ratemaking purposes. In other words, CenterPoint

[209] *Id.* at 45:15-23.

Houston has invested substantially more equity into the utility in order to maintain its bond ratings in the face of its substantial capital expenditures and ongoing storm risks, but by doing so, the Company has reduced its opportunity to earn its authorized ROE. As discussed in my direct testimony, the Company has mechanisms that provide for capital cost recovery between rate cases; however, there is a lag in the recovery of such costs, which also put pressure on the Company's ability to reasonably earn its authorized ROE. Therefore, it is not accurate for Mr. Gorman to suggest that the Company's proposed increase in the equity ratio is unnecessary to maintain its bond ratings when he has not considered the fact that the Company currently has an equity ratio much higher than the equity ratio currently authorized.

Q: ARE YOU AWARE OF EXAMPLES WHERE CAPITAL ATTRACTION AND WILLINGNESS TO INVEST HAVE BEEN HAMPERED WHEN A REGULATORY JURISDICTION IS PERCEIVED AS NOT BEING CREDIT SUPPORTIVE?

A. Yes. In my Direct Testimony, I discussed a number of examples of where a challenging regulatory environment can have a negative impact on utilities, including an example for the Company in 2020.[210] Connecticut and Illinois are two recent examples. I discussed the challenges in Illinois in my direct testimony, where market reactions to regulatory decisions in December 2023 for Ameren Illinois Co. and Commonwealth Edison Co. were universally negative and both

[210] *See* Bulkley Direct at 17:2-22:10. Fitch Ratings Inc., "Fitch Downgrades CenterPoint Energy Houston Electric to BBB+; Affirms CNP; Outlooks Negative," February 19, 2020.

utilities considered shifting investment to their other utility operating subsidiaries outside of Illinois.

Connecticut, which is viewed by research analysts, equity analysts, and investors as among the least credit supportive jurisdictions in the United States for utilities, is the most recent example of where capital attraction and a willingness to invest have been hampered. For example:

- The two major utility holding companies operating in Connecticut (i.e., Eversource and Avangrid Inc. ("Avangrid")) have announced their unwillingness to continue discretionary investment in the state until the regulatory environment and cost recovery outcomes change.
- Avangrid's utility operating subsidiaries in Connecticut (i.e., Connecticut Natural Gas Corporation ("CNG") and Southern Connecticut Gas Company ("SCG")) have recently experienced difficulty fully subscribing bond issuances, and while able to do so, the premiums were higher than anticipated.

Specifically, in May 2024, Eversource, which owns Connecticut Light & Power and Aquarion Water in Connecticut, announced on its earnings call that it would be cutting investment by its utilities within the state due to "unreasonable, arbitrary decisions by the regulator (i.e., the Public Utilities Regulatory Authority ("PURA")), and that the company had "grave concerns" regarding the Connecticut regulatory environment.[211] Eversource executives stated that the company is unwilling to place capital at risk within Connecticut given that the state's regulatory policy discourages investment.[212] Driving the cut in utility investment is Eversource's view that utility regulators have been slow to approve the recovery of

[211] Mark Pazniokas, "Eversource escalates CT fight, saying it will cut investments," CT Mirror, (May 2, 2024).

[212] Jared Anderson, "Eversource cutting investment in Connecticut by up to $500 million over 5 years," S&P Capital IQ Pro, (May 3, 2024).

$635 million in storm costs incurred from 2018 through 2021, $400 million in uncollected bills from ratepayers, a rate reduction imposed on Aquarion Water in its most recent rate proceeding, and elimination of a program supporting electric vehicles.[213] Consequently, Eversource stated that is taking a "hard look" at its capital deployment priorities in Connecticut and plans to reduce its capital investment in Connecticut by $500 million over the next five years, which will likely come from reliability areas until "Connecticut's regulatory decisions come back into alignment with law and state policy."[214] Eversource indicated that it will not reduce safety spending, but that it has made significant investments in reliability over the past decade but is unwilling to continue doing so without a secure and predictable cost recovery path.[215] Moreover, Eversource has also indicated that it is exploring a sale of Aquarion Water.[216]

Similarly, Avangrid, which owns United Illuminating ("UI"), CNG, and SCG in Connecticut, has also announced that its planned $191 million in capital investment hinges on both regulatory decisions associated with the pending rate cases of CNG and SCG, and the resolution of Avangrid's ongoing legal appeal of PURA's August 2023 order whereby UI's rate request was reduced from $131 million to $23 million, which the utility says will require it to operate at a loss.

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[213] Mark Pazniokas, "Eversource escalates CT fight, saying it will cut investments," CT Mirror.

[214] Jared Anderson, "Eversource cutting investment in Connecticut by up to $500 million over 5 years," S&P Capital IQ Pro.

[215] *Id.*

[216] Luther Turmelle, "Aquarion is for sale, but who will buy it? Here's a look at what's next," CT Insider, (Mar. 23, 2024).

In addition, Avangrid has indicated that it experienced difficulties in attracting adequate subscription levels for debt issuances by its Connecticut utilities that closed in December 2023, and the bonds priced at a higher coupon rate than anticipated.[217] Specifically, as stated in its currently pending rate proceeding:

> The debt issuance was a private offering in which four banks served as lead placement agents and worked with the Company to market the transaction to investors in advance of pricing. On the day of pricing, November 15th, the subscriptions sought for CNG and SCG were only 65% and 50% fulfilled, respectively. This compares to the offering for one of the other Avangrid utilities which was more than two-times subscribed. After some additional negotiation, the banks were able to get one investor to fill the remaining portions of the issuance sought for CNG and SCG and the full transaction priced on the following day; however, the credit spreads were wider than anticipated across the Avangrid Connecticut utilities, raising the financing cost by approximately 10-15 basis points. *The bankers informed Avangrid that the difficulty in fulfilling the necessary subscription levels and the wider credit spreads attracted were caused in part by the limited interest to invest in Connecticut utilities due to concerns over the regulatory environment and potential impacts to current ratings*.[218]

Q: HAVE UTILITIES SHIFTED INVESTMENT OUTSIDE OF A JURISDICTION THAT IS VIEWED AS UNSUPPORTIVE?

A. Yes. After Eversource's announcement to curtail investment in Connecticut, Guggenheim Partners analyst Shahriar Pourreza noted that the threats to reduce investment should be taken seriously and that it has happened in other states, most recently in Illinois. Because utilities are capital intensive and inherently cash-flow

[217] *Application of Connecticut Natural Gas Corporation and the Southern Connecticut Gas Company to Amend their Rate Schedules*, Connecticut Public Utilities Regulatory Authority, Docket No. 23-11-02, Response of Connecticut Natural Gas Corporation to data request RRU-402 (Feb. 27, 2024).

[218] *Id.* (emphasis added).

negative, Mr. Pourreza stated that he has seen utilities that operate in multiple jurisdictions shift capital to where the return is more predictable.[219]

Q: IS DR. WOOLRIDGE ALSO AWARE OF THE ISSUES ONGOING IN CONNECTICUT?

A. Yes. Dr. Woolridge testified in each of the utility rate proceedings for the Eversource and Avangrid subsidiaries that I referenced and in those proceedings proposed below average ROEs.

Q: HAVE MR. FILAROWICZ, MR. GORMAN, OR MR. MAC MATHUNA ADDRESSED ANY CHANGES IN MARKET CIRCUMSTANCES THAT HAVE OCCURRED THAT MAY AFFECT THEIR CAPITAL STRUCTURE RECOMMENDATION?

A. No.

Q: ARE THERE OTHER FACTORS THAT SHOULD BE CONSIDERED BY THE COMMISSION WHEN ESTABLISHING THE CAPITAL STRUCTURE IN THIS PROCEEDING?

A. Yes. As discussed in Company witness Jacqueline Richert's rebuttal testimony, in March 2024, S&P Global Ratings revised its outlook for CNP from Stable to Negative. In addition, the Company's service territory has experienced two severe weather events, in May 2024 and July 2024. These events have and will continue to require significant investment and access to capital to restore the system. These events demonstrate the need to maintain continued access to capital on reasonable terms, at all times. Further, the financial commitments required from these two

[219] Mark Pazniokas, "Eversource escalates CT fight, saying it will cut investments," CT Mirror.

weather events also demonstrate why it is important that the Company be authorized an actual capital structure, rather than the hypothetical capital structures proposed by the intervenor witnesses in this proceeding.

Q: DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

COST OF EQUITY ANALYSES
SUMMARY OF RESULTS

Constant Growth DCF

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Average	9.41%	10.54%	11.46%
90-Day Average	9.65%	10.78%	11.70%
180-Day Average	9.51%	10.64%	11.56%
Average	9.52%	10.65%	11.57%
Median Results:			
30-Day Average	9.79%	10.40%	11.19%
90-Day Average	10.01%	10.51%	11.27%
180-Day Average	9.92%	10.57%	11.33%
Average	9.91%	10.49%	11.26%

CAPM / ECAPM / Bond Yield Risk Premium

	30-Year Treasury Bond Yield		
	Current 30-Day Avg	Near-Term Projected	Longer-Term Projected
CAPM:			
Value Line Beta	12.14%	12.13%	12.13%
Bloomberg Beta	11.01%	10.99%	10.97%
Long-term Avg. Beta	10.75%	10.73%	10.71%
ECAPM:			
Value Line Beta	12.27%	12.26%	12.26%
Bloomberg Beta	11.42%	11.40%	11.39%
Long-term Avg. Beta	11.23%	11.21%	11.19%
Bond Yield Risk Premium	10.53%	10.46%	10.41%

30-DAY CONSTANT GROWTH DCF

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line EPS Growth	[6] Yahoo! Finance EPS Growth	[7] Zacks EPS Growth	[8] Average Growth Rate	[9] Minimum Growth Rate	[10] Average Growth Rate	[11] Maximum Growth Rate
Alliant Energy Corporation	LNT	$1.92	$50.66	3.79%	3.91%	6.00%	6.30%	6.10%	6.13%	9.90%	10.04%	10.21%
Ameren Corporation	AEE	$2.68	$71.34	3.76%	3.87%	6.50%	5.50%	6.20%	6.07%	9.36%	9.94%	10.38%
American Electric Power Company, Inc.	AEP	$3.52	$89.01	3.95%	4.08%	6.50%	6.36%	6.10%	6.32%	10.18%	10.40%	10.58%
Duke Energy Corporation	DUK	$4.10	$101.95	4.02%	4.14%	5.00%	6.66%	6.10%	5.92%	9.12%	10.06%	10.82%
Edison International	EIX	$3.12	$73.99	4.22%	4.36%	6.00%	7.60%	n/a	6.80%	10.34%	11.16%	11.98%
Entergy Corporation	ETR	$4.52	$108.95	4.15%	4.25%	0.50%	6.80%	7.30%	4.87%	4.66%	9.12%	11.60%
Eversource Energy	ES	$2.86	$58.62	4.88%	5.01%	6.00%	4.20%	5.70%	5.30%	9.18%	10.31%	11.03%
Evergy, Inc.	EVRG	$2.57	$53.56	4.80%	4.95%	7.50%	6.00%	5.00%	6.17%	9.92%	11.11%	12.48%
IDACORP, Inc.	IDA	$3.32	$93.69	3.54%	3.63%	5.00%	4.40%	n/a	4.70%	8.02%	8.33%	8.63%
NextEra Energy, Inc.	NEE	$2.06	$74.85	2.75%	2.87%	8.00%	8.20%	8.60%	8.27%	10.86%	11.13%	11.47%
NorthWestern Corporation	NWE	$2.60	$50.34	5.16%	5.27%	4.00%	4.50%	n/a	4.25%	9.27%	9.52%	9.78%
OGE Energy Corporation	OGE	$1.67	$35.77	4.68%	4.81%	6.50%	negative	5.00%	5.75%	9.79%	10.56%	11.33%
Pinnacle West Capital Corporation	PNW	$3.52	$76.61	4.59%	4.75%	4.50%	7.20%	8.20%	6.63%	9.20%	11.38%	12.98%
Portland General Electric Company	POR	$2.00	$43.02	4.65%	4.86%	6.00%	12.50%	n/a	9.25%	10.79%	14.11%	17.44%
Xcel Energy Inc.	XEL	$2.19	$54.15	4.04%	4.18%	7.00%	6.73%	6.40%	6.71%	10.57%	10.89%	11.19%
Mean				4.20%	4.33%	5.67%	6.64%	6.43%	6.21%	9.41%	10.54%	11.46%
Median				4.15%	4.25%	6.00%	6.51%	6.10%	6.13%	9.79%	10.40%	11.19%

Notes:

[1] Bloomberg Professional
[2] Bloomberg Professional, equals 30-day average as of June 30, 2024
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Value Line
[6] Yahoo! Finance
[7] Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] [8]
[11] Equals [3] x (1 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

90-DAY CONSTANT GROWTH DCF

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line EPS Growth	[6] Yahoo! Finance EPS Growth	[7] Zacks EPS Growth	[8] Average Growth Rate	[9] Minimum Growth Rate	[10] Average Growth Rate	[11] Maximum Growth Rate
Alliant Energy Corporation	LNT	$1.92	$49.29	3.89%	4.01%	6.00%	6.30%	6.10%	6.13%	10.01%	10.15%	10.32%
Ameren Corporation	AEE	$2.68	$74.63	3.59%	3.70%	6.50%	5.50%	6.20%	6.07%	9.19%	9.77%	10.21%
American Electric Power Company, Inc.	AEP	$3.52	$77.87	4.52%	4.66%	6.50%	6.36%	6.10%	6.32%	10.76%	10.98%	11.17%
Duke Energy Corporation	DUK	$4.10	$91.92	4.46%	4.59%	5.00%	6.66%	6.10%	5.92%	9.57%	10.51%	11.27%
Edison International	EIX	$3.12	$66.06	4.72%	4.88%	6.00%	7.60%	n/a	6.80%	10.86%	11.68%	12.50%
Entergy Corporation	ETR	$4.52	$97.78	4.62%	4.74%	0.50%	6.80%	7.30%	4.87%	5.13%	9.60%	12.09%
Eversource Energy	ES	$2.86	$57.25	5.00%	5.13%	6.00%	4.20%	5.70%	5.30%	9.30%	10.43%	11.15%
Evergy, Inc.	EVRG	$2.57	$50.51	5.09%	5.25%	7.50%	6.00%	5.00%	6.17%	10.22%	11.41%	12.78%
IDACORP, Inc.	IDA	$3.32	$96.06	3.46%	3.54%	5.00%	4.40%	n/a	4.70%	7.93%	8.24%	8.54%
NextEra Energy, Inc.	NEE	$2.06	$57.79	3.56%	3.71%	8.00%	8.20%	8.60%	8.27%	11.71%	11.98%	12.32%
NorthWestern Corporation	NWE	$2.60	$49.31	5.27%	5.38%	4.00%	4.50%	n/a	4.25%	9.38%	9.63%	9.89%
OGE Energy Corporation	OGE	$1.67	$33.98	4.92%	5.06%	6.50%	negative	5.00%	5.75%	10.05%	10.81%	11.58%
Pinnacle West Capital Corporation	PNW	$3.52	$71.92	4.89%	5.06%	4.50%	7.20%	8.20%	6.63%	9.50%	11.69%	13.30%
Portland General Electric Company	POR	$2.00	$41.30	4.84%	5.07%	6.00%	12.50%	n/a	9.25%	10.99%	14.32%	17.65%
Xcel Energy Inc.	XEL	$2.19	$59.73	3.67%	3.79%	7.00%	6.73%	6.40%	6.71%	10.18%	10.50%	10.79%
Mean				4.43%	4.57%	5.67%	6.64%	6.43%	6.21%	9.65%	10.78%	11.70%
Median				4.62%	4.74%	6.00%	6.51%	6.10%	6.13%	10.01%	10.51%	11.27%

Notes:
[1] Bloomberg Professional
[2] Bloomberg Professional, equals 30-day average as of June 30, 2024
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Value Line
[6] Yahoo! Finance
[7] Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] [8]
[11] Equals [3] x (1 − 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

180-DAY CONSTANT GROWTH DCF

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line EPS Growth	[6] Yahoo! Finance EPS Growth	[7] Zacks EPS Growth	[8] Average Growth Rate	[9] Minimum Growth Rate	[10] Average Growth Rate	[11] Maximum Growth Rate
Alliant Energy Corporation	LNT	$1.92	$50.16	3.83%	3.95%	6.00%	6.30%	6.10%	6.13%	9.94%	10.08%	10.25%
Ameren Corporation	AEE	$2.68	$77.70	3.45%	3.55%	6.50%	5.50%	6.20%	6.07%	9.04%	9.62%	10.06%
American Electric Power Company, Inc.	AEP	$3.52	$79.59	4.42%	4.56%	6.50%	6.36%	6.10%	6.32%	10.66%	10.88%	11.07%
Duke Energy Corporation	DUK	$4.10	$90.79	4.52%	4.65%	5.00%	6.66%	6.10%	5.92%	9.63%	10.57%	11.33%
Edison International	EIX	$3.12	$66.83	4.67%	4.83%	6.00%	7.60%	n/a	6.80%	10.81%	11.63%	12.45%
Entergy Corporation	ETR	$4.52	$97.25	4.65%	4.76%	0.50%	6.80%	7.30%	4.87%	5.16%	9.63%	12.12%
Eversource Energy	ES	$2.86	$62.28	4.59%	4.71%	6.00%	4.20%	5.70%	5.30%	8.89%	10.01%	10.73%
Evergy, Inc.	EVRG	$2.57	$53.56	4.80%	4.95%	7.50%	6.00%	5.00%	6.17%	9.92%	11.11%	12.48%
IDACORP, Inc.	IDA	$3.32	$97.92	3.39%	3.47%	5.00%	4.40%	n/a	4.70%	7.86%	8.17%	8.48%
NextEra Energy, Inc.	NEE	$2.06	$64.15	3.21%	3.34%	8.00%	8.20%	8.60%	8.27%	11.34%	11.61%	11.95%
NorthWestern Corporation	NWE	$2.60	$51.54	5.04%	5.15%	4.00%	4.50%	n/a	4.25%	9.15%	9.40%	9.66%
OGE Energy Corporation	OGE	$1.67	$34.21	4.89%	5.03%	6.50%	negative	5.00%	5.75%	10.01%	10.78%	11.55%
Pinnacle West Capital Corporation	PNW	$3.52	$74.66	4.71%	4.87%	4.50%	7.20%	8.20%	6.63%	9.32%	11.50%	13.11%
Portland General Electric Company	POR	$2.00	$43.46	4.60%	4.81%	6.00%	12.50%	n/a	9.25%	10.74%	14.06%	17.39%
Xcel Energy Inc.	XEL	$2.19	$60.12	3.64%	3.76%	7.00%	6.73%	6.40%	6.71%	10.16%	10.47%	10.77%
Mean				4.29%	4.43%	5.67%	6.64%	6.43%	6.21%	9.51%	10.64%	11.56%
Median				4.59%	4.71%	6.00%	6.51%	6.10%	6.13%	9.92%	10.57%	11.33%

Notes:
[1] Bloomberg Professional
[2] Bloomberg Professional, equals 30-day average as of June 30, 2024
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Value Line
[6] Yahoo! Finance
[7] Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

CAPITAL ASSET PRICING MODEL
CURRENT RISK-FREE RATE & VL BETA

Company	Ticker	[1] Current 30-day average of 30-year U.S. Treasury bond yield	[2] Beta	[3] Market Return	[4] Market Risk Premium	[5] Cost of Equity: CAPM	[6] Cost of Equity: ECAPM
Alliant Energy Corporation	LNT	4.50%	0.90	12.65%	8.15%	11.84%	12.04%
Ameren Corporation	AEE	4.50%	0.90	12.65%	8.15%	11.84%	12.04%
American Electric Power Company, Inc.	AEP	4.50%	0.85	12.65%	8.15%	11.43%	11.74%
Duke Energy Corporation	DUK	4.50%	0.90	12.65%	8.15%	11.84%	12.04%
Edison International	EIX	4.50%	1.00	12.65%	8.15%	12.65%	12.65%
Entergy Corporation	ETR	4.50%	1.00	12.65%	8.15%	12.65%	12.65%
Eversource Energy	ES	4.50%	0.95	12.65%	8.15%	12.25%	12.35%
Evergy, Inc.	EVRG	4.50%	0.95	12.65%	8.15%	12.25%	12.35%
IDACORP, Inc.	IDA	4.50%	0.85	12.65%	8.15%	11.43%	11.74%
NextEra Energy, Inc.	NEE	4.50%	1.05	12.65%	8.15%	13.06%	12.96%
NorthWestern Corporation	NWE	4.50%	0.95	12.65%	8.15%	12.25%	12.35%
OGE Energy Corporation	OGE	4.50%	1.05	12.65%	8.15%	13.06%	12.96%
Pinnacle West Capital Corporation	PNW	4.50%	0.95	12.65%	8.15%	12.25%	12.35%
Portland General Electric Company	POR	4.50%	0.90	12.65%	8.15%	11.84%	12.04%
Xcel Energy Inc.	XEL	4.50%	0.85	12.65%	8.15%	11.43%	11.74%
Mean						12.14%	12.27%
Median						12.25%	12.35%

Notes:
[1] Bloomberg Professional, as of June 30, 2024
[2] Value Line
[3] Market Return
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL
NEAR-TERM PROJECTED RISK-FREE RATE & VL BETA

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Near-term projected 30-year U.S. Treasury bond yield (Q4 2024 - Q4 2025)	Beta	Market Return	Market Risk Premium	Cost of Equity: CAPM	Cost of Equity: ECAPM
Alliant Energy Corporation	LNT	4.38%	0.90	12.65%	8.27%	11.83%	12.03%
Ameren Corporation	AEE	4.38%	0.90	12.65%	8.27%	11.83%	12.03%
American Electric Power Company, Inc.	AEP	4.38%	0.85	12.65%	8.27%	11.41%	11.72%
Duke Energy Corporation	DUK	4.38%	0.90	12.65%	8.27%	11.83%	12.03%
Edison International	EIX	4.38%	1.00	12.65%	8.27%	12.65%	12.65%
Entergy Corporation	ETR	4.38%	1.00	12.65%	8.27%	12.65%	12.65%
Eversource Energy	ES	4.38%	0.95	12.65%	8.27%	12.24%	12.34%
Evergy, Inc.	EVRG	4.38%	0.95	12.65%	8.27%	12.24%	12.34%
IDACORP, Inc.	IDA	4.38%	0.85	12.65%	8.27%	11.41%	11.72%
NextEra Energy, Inc.	NEE	4.38%	1.05	12.65%	8.27%	13.07%	12.96%
NorthWestern Corporation	NWE	4.38%	0.95	12.65%	8.27%	12.24%	12.34%
OGE Energy Corporation	OGE	4.38%	1.05	12.65%	8.27%	13.07%	12.96%
Pinnacle West Capital Corporation	PNW	4.38%	0.95	12.65%	8.27%	12.24%	12.34%
Portland General Electric Company	POR	4.38%	0.90	12.65%	8.27%	11.83%	12.03%
Xcel Energy Inc.	XEL	4.38%	0.85	12.65%	8.27%	11.41%	11.72%
Mean						12.13%	12.26%
Median						12.24%	12.34%

Notes:
[1] Blue Chip Financial Forecasts, Vol. 43, No. 7, July 1, 2024, at 2
[2] Value Line
[3] Market Return
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL
LONG-TERM PROJECTED RISK-FREE RATE & VL BETA

Company	Ticker	[1] Projected 30-year U.S. Treasury bond yield (2026 - 2030)	[2] Beta	[3] Market Return	[4] Market Risk Premium	[5] Cost of Equity: CAPM	[6] Cost of Equity: ECAPM
Alliant Energy Corporation	LNT	4.30%	0.90	12.65%	8.35%	11.82%	12.03%
Ameren Corporation	AEE	4.30%	0.90	12.65%	8.35%	11.82%	12.03%
American Electric Power Company, Inc.	AEP	4.30%	0.85	12.65%	8.35%	11.40%	11.71%
Duke Energy Corporation	DUK	4.30%	0.90	12.65%	8.35%	11.82%	12.03%
Edison International	EIX	4.30%	1.00	12.65%	8.35%	12.65%	12.65%
Entergy Corporation	ETR	4.30%	1.00	12.65%	8.35%	12.65%	12.65%
Eversource Energy	ES	4.30%	0.95	12.65%	8.35%	12.24%	12.34%
Evergy, Inc.	EVRG	4.30%	0.95	12.65%	8.35%	12.24%	12.34%
IDACORP, Inc.	IDA	4.30%	0.85	12.65%	8.35%	11.40%	11.71%
NextEra Energy, Inc.	NEE	4.30%	1.05	12.65%	8.35%	13.07%	12.97%
NorthWestern Corporation	NWE	4.30%	0.95	12.65%	8.35%	12.24%	12.34%
OGE Energy Corporation	OGE	4.30%	1.05	12.65%	8.35%	13.07%	12.97%
Pinnacle West Capital Corporation	PNW	4.30%	0.95	12.65%	8.35%	12.24%	12.34%
Portland General Electric Company	POR	4.30%	0.90	12.65%	8.35%	11.82%	12.03%
Xcel Energy Inc.	XEL	4.30%	0.85	12.65%	8.35%	11.40%	11.71%
Mean						12.13%	12.26%
Median						12.24%	12.34%

Notes:
[1] Blue Chip Financial Forecasts, Vol. 43, No. 6, May 31, 2024, at 14.
[2] Value Line
[3] Market Return
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL
CURRENT RISK-FREE RATE & BLOOMBERG BETA

Company	Ticker	[1] Current 30-day average of 30-year U.S. Treasury bond yield	[2] Beta	[3] Market Return	[4] Market Risk Premium	[5] Cost of Equity: CAPM	[6] Cost of Equity: ECAPM
Alliant Energy Corporation	LNT	4.50%	0.78	12.65%	8.15%	10.89%	11.33%
Ameren Corporation	AEE	4.50%	0.74	12.65%	8.15%	10.54%	11.07%
American Electric Power Company, Inc.	AEP	4.50%	0.75	12.65%	8.15%	10.63%	11.14%
Duke Energy Corporation	DUK	4.50%	0.71	12.65%	8.15%	10.33%	10.91%
Edison International	EIX	4.50%	0.85	12.65%	8.15%	11.41%	11.72%
Entergy Corporation	ETR	4.50%	0.85	12.65%	8.15%	11.46%	11.76%
Eversource Energy	ES	4.50%	0.80	12.65%	8.15%	11.05%	11.45%
Evergy, Inc.	EVRG	4.50%	0.78	12.65%	8.15%	10.83%	11.28%
IDACORP, Inc.	IDA	4.50%	0.79	12.65%	8.15%	10.96%	11.38%
NextEra Energy, Inc.	NEE	4.50%	0.81	12.65%	8.15%	11.11%	11.50%
NorthWestern Corporation	NWE	4.50%	0.86	12.65%	8.15%	11.54%	11.82%
OGE Energy Corporation	OGE	4.50%	0.91	12.65%	8.15%	11.92%	12.10%
Pinnacle West Capital Corporation	PNW	4.50%	0.81	12.65%	8.15%	11.13%	11.51%
Portland General Electric Company	POR	4.50%	0.78	12.65%	8.15%	10.89%	11.33%
Xcel Energy Inc.	XEL	4.50%	0.73	12.65%	8.15%	10.47%	11.02%
Mean						11.01%	11.42%
Median						10.96%	11.38%

Notes:
[1] Bloomberg Professional, as of June 30, 2024
[2] Bloomberg Professional, based on 10-year weekly returns
[3] Market Return
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL
NEAR-TERM PROJECTED RISK-FREE RATE & BLOOMBERG BETA

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Near-term projected 30-year U.S. Treasury bond yield (Q4 2024 - Q4 2025)	Beta	Market Return	Market Risk Premium	Cost of Equity: CAPM	Cost of Equity: ECAPM
Alliant Energy Corporation	LNT	4.38%	0.78	12.65%	8.27%	10.87%	11.31%
Ameren Corporation	AEE	4.38%	0.74	12.65%	8.27%	10.51%	11.05%
American Electric Power Company, Inc.	AEP	4.38%	0.75	12.65%	8.27%	10.60%	11.11%
Duke Energy Corporation	DUK	4.38%	0.71	12.65%	8.27%	10.29%	10.88%
Edison International	EIX	4.38%	0.85	12.65%	8.27%	11.39%	11.71%
Entergy Corporation	ETR	4.38%	0.85	12.65%	8.27%	11.45%	11.75%
Eversource Energy	ES	4.38%	0.80	12.65%	8.27%	11.03%	11.43%
Evergy, Inc.	EVRG	4.38%	0.78	12.65%	8.27%	10.80%	11.26%
IDACORP, Inc.	IDA	4.38%	0.79	12.65%	8.27%	10.93%	11.36%
NextEra Energy, Inc.	NEE	4.38%	0.81	12.65%	8.27%	11.09%	11.48%
NorthWestern Corporation	NWE	4.38%	0.86	12.65%	8.27%	11.53%	11.81%
OGE Energy Corporation	OGE	4.38%	0.91	12.65%	8.27%	11.91%	12.09%
Pinnacle West Capital Corporation	PNW	4.38%	0.81	12.65%	8.27%	11.10%	11.49%
Portland General Electric Company	POR	4.38%	0.78	12.65%	8.27%	10.86%	11.31%
Xcel Energy Inc.	XEL	4.38%	0.73	12.65%	8.27%	10.44%	10.99%
Mean						10.99%	11.40%
Median						10.93%	11.36%

Notes:
[1] Blue Chip Financial Forecasts, Vol. 43, No. 7, July 1, 2024, at 2
[2] Bloomberg Professional, based on 10-year weekly returns
[3] Market Return
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL
LONG-TERM PROJECTED RISK-FREE RATE & BLOOMBERG BETA

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2026 - 2030)	Beta	Market Return	Market Risk Premium	Cost of Equity: CAPM	Cost of Equity: ECAPM
Alliant Energy Corporation	LNT	4.30%	0.78	12.65%	8.35%	10.85%	11.30%
Ameren Corporation	AEE	4.30%	0.74	12.65%	8.35%	10.49%	11.03%
American Electric Power Company, Inc.	AEP	4.30%	0.75	12.65%	8.35%	10.58%	11.10%
Duke Energy Corporation	DUK	4.30%	0.71	12.65%	8.35%	10.27%	10.87%
Edison International	EIX	4.30%	0.85	12.65%	8.35%	11.38%	11.70%
Entergy Corporation	ETR	4.30%	0.85	12.65%	8.35%	11.43%	11.74%
Eversource Energy	ES	4.30%	0.80	12.65%	8.35%	11.01%	11.42%
Evergy, Inc.	EVRG	4.30%	0.78	12.65%	8.35%	10.78%	11.25%
IDACORP, Inc.	IDA	4.30%	0.79	12.65%	8.35%	10.92%	11.35%
NextEra Energy, Inc.	NEE	4.30%	0.81	12.65%	8.35%	11.07%	11.47%
NorthWestern Corporation	NWE	4.30%	0.86	12.65%	8.35%	11.52%	11.80%
OGE Energy Corporation	OGE	4.30%	0.91	12.65%	8.35%	11.90%	12.09%
Pinnacle West Capital Corporation	PNW	4.30%	0.81	12.65%	8.35%	11.09%	11.48%
Portland General Electric Company	POR	4.30%	0.78	12.65%	8.35%	10.85%	11.30%
Xcel Energy Inc.	XEL	4.30%	0.73	12.65%	8.35%	10.42%	10.98%
Mean						10.97%	11.39%
Median						10.92%	11.35%

Notes:
[1] Blue Chip Financial Forecasts, Vol. 43, No. 6, May 31, 2024, at 14.
[2] Bloomberg Professional, based on 10-year weekly returns
[3] Market Return
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL
CURRENT RISK-FREE RATE & VALUE LINE LT AVERAGE BETA

Company	Ticker	[1] Current 30-day average of 30-year U.S. Treasury bond yield	[2] Beta	[3] Market Return	[4] Market Risk Premium	[5] Cost of Equity: CAPM	[6] Cost of Equity: ECAPM
Alliant Energy Corporation	LNT	4.50%	0.76	12.65%	8.15%	10.73%	11.21%
Ameren Corporation	AEE	4.50%	0.74	12.65%	8.15%	10.54%	11.07%
American Electric Power Company, Inc.	AEP	4.50%	0.69	12.65%	8.15%	10.10%	10.74%
Duke Energy Corporation	DUK	4.50%	0.69	12.65%	8.15%	10.10%	10.74%
Edison International	EIX	4.50%	0.77	12.65%	8.15%	10.80%	11.27%
Entergy Corporation	ETR	4.50%	0.76	12.65%	8.15%	10.73%	11.21%
Eversource Energy	ES	4.50%	0.76	12.65%	8.15%	10.71%	11.19%
Evergy, Inc.	EVRG	4.50%	0.94	12.65%	8.15%	12.15%	12.27%
IDACORP, Inc.	IDA	4.50%	0.74	12.65%	8.15%	10.54%	11.07%
NextEra Energy, Inc.	NEE	4.50%	0.75	12.65%	8.15%	10.65%	11.15%
NorthWestern Corporation	NWE	4.50%	0.76	12.65%	8.15%	10.73%	11.21%
OGE Energy Corporation	OGE	4.50%	0.94	12.65%	8.15%	12.17%	12.29%
Pinnacle West Capital Corporation	PNW	4.50%	0.75	12.65%	8.15%	10.65%	11.15%
Portland General Electric Company	POR	4.50%	0.76	12.65%	8.15%	10.73%	11.21%
Xcel Energy Inc.	XEL	4.50%	0.67	12.65%	8.15%	9.99%	10.65%
Mean						10.75%	11.23%
Median						10.71%	11.19%

Notes:
[1] Bloomberg Professional, as of June 30, 2024
[2] LT Beta
[3] Market Return
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL
NEAR-TERM PROJECTED RISK-FREE RATE & VALUE LINE LT AVERAGE BETA

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Near-term projected 30-year U.S. Treasury bond yield (Q4 2024 - Q4 2025)	Beta	Market Return	Market Risk Premium	Cost of Equity: CAPM	Cost of Equity: ECAPM
Alliant Energy Corporation	LNT	4.38%	0.76	12.65%	8.27%	10.70%	11.19%
Ameren Corporation	AEE	4.38%	0.74	12.65%	8.27%	10.51%	11.05%
American Electric Power Company, Inc.	AEP	4.38%	0.69	12.65%	8.27%	10.06%	10.71%
Duke Energy Corporation	DUK	4.38%	0.69	12.65%	8.27%	10.06%	10.71%
Edison International	EIX	4.38%	0.77	12.65%	8.27%	10.77%	11.24%
Entergy Corporation	ETR	4.38%	0.76	12.65%	8.27%	10.70%	11.19%
Eversource Energy	ES	4.38%	0.76	12.65%	8.27%	10.68%	11.17%
Evergy, Inc.	EVRG	4.38%	0.94	12.65%	8.27%	12.14%	12.27%
IDACORP, Inc.	IDA	4.38%	0.74	12.65%	8.27%	10.51%	11.05%
NextEra Energy, Inc.	NEE	4.38%	0.75	12.65%	8.27%	10.62%	11.13%
NorthWestern Corporation	NWE	4.38%	0.76	12.65%	8.27%	10.70%	11.19%
OGE Energy Corporation	OGE	4.38%	0.94	12.65%	8.27%	12.17%	12.29%
Pinnacle West Capital Corporation	PNW	4.38%	0.75	12.65%	8.27%	10.62%	11.13%
Portland General Electric Company	POR	4.38%	0.76	12.65%	8.27%	10.70%	11.19%
Xcel Energy Inc.	XEL	4.38%	0.67	12.65%	8.27%	9.95%	10.62%
Mean						10.73%	11.21%
Median						10.68%	11.17%

Notes:
[1] Blue Chip Financial Forecasts, Vol. 43, No. 7, July 1, 2024, at 2
[2] LT Beta
[3] Market Return
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL
LONG-TERM PROJECTED RISK-FREE RATE & VALUE LINE LT BETA

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2026 - 2030)	Beta	Market Return	Market Risk Premium	Cost of Equity: CAPM	Cost of Equity: ECAPM
Alliant Energy Corporation	LNT	4.30%	0.76	12.65%	8.35%	10.68%	11.17%
Ameren Corporation	AEE	4.30%	0.74	12.65%	8.35%	10.49%	11.03%
American Electric Power Company, Inc.	AEP	4.30%	0.69	12.65%	8.35%	10.03%	10.69%
Duke Energy Corporation	DUK	4.30%	0.69	12.65%	8.35%	10.03%	10.69%
Edison International	EIX	4.30%	0.77	12.65%	8.35%	10.76%	11.23%
Entergy Corporation	ETR	4.30%	0.76	12.65%	8.35%	10.68%	11.17%
Eversource Energy	ES	4.30%	0.76	12.65%	8.35%	10.66%	11.16%
Evergy, Inc.	EVRG	4.30%	0.94	12.65%	8.35%	12.13%	12.26%
IDACORP, Inc.	IDA	4.30%	0.74	12.65%	8.35%	10.49%	11.03%
NextEra Energy, Inc.	NEE	4.30%	0.75	12.65%	8.35%	10.60%	11.12%
NorthWestern Corporation	NWE	4.30%	0.76	12.65%	8.35%	10.68%	11.17%
OGE Energy Corporation	OGE	4.30%	0.94	12.65%	8.35%	12.16%	12.28%
Pinnacle West Capital Corporation	PNW	4.30%	0.75	12.65%	8.35%	10.60%	11.12%
Portland General Electric Company	POR	4.30%	0.76	12.65%	8.35%	10.68%	11.17%
Xcel Energy Inc.	XEL	4.30%	0.67	12.65%	8.35%	9.92%	10.60%
Mean						10.71%	11.19%
Median						10.66%	11.16%

Notes:
[1] Blue Chip Financial Forecasts, Vol. 43, No. 6, May 31, 2024, at 14.
[2] LT Beta
[3] Market Return
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

HISTORICAL BETA - 2013 - 2023

Company	Ticker	[1] 12/31/2013	[2] 12/31/2014	[3] 12/31/2015	[4] 12/31/2016	[5] 12/31/2017	[6] 12/31/2018	[7] 12/31/2019	[8] 12/31/2020	[9] 12/31/2021	[10] 12/31/2022	[11] 12/31/2023	[12] Average
Alliant Energy Corporation	LNT	0.75	0.80	0.80	0.70	0.70	0.60	0.60	0.85	0.85	0.85	0.90	0.76
Ameren Corporation	AEE	0.80	0.75	0.75	0.65	0.70	0.55	0.55	0.85	0.80	0.85	0.90	0.74
American Electric Power Company, Inc.	AEP	0.70	0.70	0.70	0.65	0.65	0.55	0.55	0.75	0.75	0.75	0.80	0.69
Duke Energy Corporation	DUK	0.65	0.60	0.65	0.60	0.60	0.50	0.50	0.85	0.85	0.85	0.90	0.69
Edison International	EIX	0.80	0.75	0.70	0.65	0.65	0.55	0.55	0.95	0.95	0.95	1.00	0.77
Entergy Corporation	ETR	0.70	0.70	0.70	0.65	0.65	0.60	0.60	0.95	0.95	0.95	0.95	0.76
Eversource Energy	ES			0.75	0.70	0.65	0.60	0.55	0.90	0.90	0.90	0.90	0.76
Evergy, Inc.	EVRG						NMF	NMF	1.00	0.95	0.90	0.90	0.94
IDACORP, Inc.	IDA	0.75	0.80	0.80	0.75	0.70	0.55	0.55	0.80	0.80	0.80	0.85	0.74
NextEra Energy, Inc.	NEE	0.70	0.70	0.75	0.65	0.65	0.55	0.55	0.90	0.90	0.95	1.00	0.75
NorthWestern Corporation	NWE	0.70	0.70	0.70	0.70	0.70	0.55	0.60	0.95	0.95	0.90	0.95	0.76
OGE Energy Corporation	OGE	0.85	0.90	0.95	0.90	0.95	0.85	0.75	1.10	1.05	1.00	1.05	0.94
Pinnacle West Capital Corporation	PNW	0.75	0.70	0.75	0.70	0.70	0.55	0.50	0.90	0.90	0.90	0.95	0.75
Portland General Electric Company	POR	0.75	0.80	0.80	0.70	0.70	0.60	0.55	0.85	0.90	0.85	0.90	0.76
Xcel Energy Inc.	XEL	0.65	0.65	0.65	0.60	0.60	0.50	0.50	0.80	0.80	0.80	0.85	0.67
Mean		0.73	0.73	0.75	0.69	0.69	0.58	0.56	0.89	0.89	0.88	0.92	0.77

Notes:

[1] Value Line, dated December 26, 2013.
[2] Value Line, dated December 31, 2014.
[3] Value Line, dated December 30, 2015.
[4] Value Line, dated December 29, 2016.
[5] Value Line, dated December 28, 2017.
[6] Value Line, dated December 27, 2018.
[7] Value Line, dated December 26, 2019.
[8] Value Line, dated December 30, 2020.
[9] Value Line, dated December 29, 2021.
[10] Value Line, dated December 30, 2022.
[11] Value Line, dated December 29, 2023.
[12] Average ([1] - [11])

MARKET RISK PREMIUM DERIVED FROM ANALYSTS' LONG-TERM GROWTH ESTIMATES

[1] Estimated Weighted Average Dividend Yield	1.58%
[2] Estimated Weighted Average Long-Term Growth Rate	10.99%
[3] S&P 500 Estimated Required Market Return	12.65%

STANDARD AND POOR'S 500 INDEX

		[1]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Name	Ticker	Shares Outstg	Price	Market Capitalization	Weight in Index	Estimated Dividend Yield	Cap-Weighted Dividend Yield	Bloomberg Growth Est.	Cap-Weighted Long-Term Growth Est.
LyondellBasell Industries NV	LYB	325.622	95.66	31,149.00	0.09%	5.60%	0.01%	10.72%	0.01%
American Express Co	AXP	719.303	231.55	166,551.61	0.48%	1.21%	0.01%	15.12%	0.07%
Verizon Communications Inc	VZ	4209.255	41.24	173,589.68	0.50%	6.45%	0.03%	2.10%	0.01%
Broadcom Inc	AVGO	465.488	1605.53	747,351.95	2.14%	1.31%	0.03%	15.86%	0.34%
Boeing Co/The	BA	613.884	182.01	111,733.03				46.91%	
Solventum Corp	SOLV	172.71	52.88	9,132.90				-2.00%	
Caterpillar Inc	CAT	489.053	333.1	162,903.55	0.47%	1.69%	0.01%	7.70%	0.04%
JPMorgan Chase & Co	JPM	2871.668	202.26	580,823.57	1.67%	2.47%	0.04%	3.03%	0.05%
Chevron Corp	CVX	1847.32	156.42	288,957.79		4.17%			
Coca-Cola Co/The	KO	4307.955	63.65	274,201.34	0.79%	3.05%	0.02%	6.36%	0.05%
AbbVie Inc	ABBV	1765.868	171.52	302,881.68	0.87%	3.61%	0.03%	8.34%	0.07%
Walt Disney Co/The	DIS	1823.043	99.29	181,009.94		0.91%		21.45%	
Corpay Inc	CPAY	70.269	266.41	18,720.36	0.05%			15.03%	0.01%
Extra Space Storage Inc	EXR	211.725	155.41	32,904.18	0.09%	4.17%	0.00%	3.30%	0.00%
Exxon Mobil Corp	XOM	4485.928	115.12	516,420.03	1.48%	3.30%	0.05%	6.00%	0.09%
Phillips 66	PSX	423.952	141.17	59,849.30		3.26%			
General Electric Co	GE	1094.607	158.97	174,009.67		0.70%		32.59%	
HP Inc	HPQ	978.56	35.02	34,269.17	0.10%	3.15%	0.00%	5.12%	0.01%
Home Depot Inc/The	HD	991.614	344.24	341,353.20	0.98%	2.61%	0.03%	3.43%	0.03%
Monolithic Power Systems Inc	MPWR	48.672	821.68	39,992.81	0.11%	0.61%	0.00%	18.00%	0.02%
International Business Machines Corp	IBM	918.603	172.95	158,872.39	0.46%	3.86%	0.02%	3.19%	0.01%
Johnson & Johnson	JNJ	2406.679	146.16	351,760.20	1.01%	3.39%	0.03%	4.99%	0.05%
Lululemon Athletica Inc	LULU	119.886	298.7	35,809.95	0.10%			7.00%	0.01%
McDonald's Corp	MCD	720.682	254.84	183,658.60	0.53%	2.62%	0.01%	7.51%	0.04%
Merck & Co Inc	MRK	2532.806	123.8	313,561.38	0.90%	2.49%	0.02%	11.00%	0.10%
3M Co	MMM	553.361	102.19	56,547.96		2.74%		-7.15%	
American Water Works Co Inc	AWK	194.823	129.16	25,163.34	0.07%	2.37%	0.00%	8.00%	0.01%
Bank of America Corp	BAC	7820.37	39.77	311,016.11		2.41%		-6.00%	
Pfizer Inc	PFE	5666.593	27.98	158,551.27	0.45%	6.00%	0.03%	7.72%	0.04%
Procter & Gamble Co/The	PG	2360.135	164.92	389,233.46	1.12%	2.44%	0.03%	8.09%	0.09%
AT&T Inc	T	7170.165	19.11	137,021.85	0.39%	5.81%	0.02%	1.63%	0.01%
Travelers Cos Inc/The	TRV	228.993	203.34	46,563.44	0.13%	2.07%	0.00%	18.24%	0.02%
RTX Corp	RTX	1329.506	100.39	133,469.11	0.38%	2.51%	0.01%	10.62%	0.04%
Analog Devices Inc	ADI	496.217	228.26	113,266.49		1.61%		-2.75%	
Walmart Inc	WMT	8043.543	67.71	544,628.30	1.56%	1.23%	0.02%	8.23%	0.13%
Cisco Systems Inc	CSCO	4049.187	47.51	192,376.87		3.37%		-0.09%	
Intel Corp	INTC	4256.872	30.97	131,855.33	0.38%	1.61%	0.01%	11.40%	0.04%
General Motors Co	GM	1140.395	46.46	52,982.75	0.15%	1.03%	0.00%	16.07%	0.02%
Microsoft Corp	MSFT	7432.306	446.95	3,321,869.17	9.53%	0.67%	0.06%	14.81%	1.41%
Dollar General Corp	DG	219.895	132.23	29,076.72		1.78%		-1.92%	
Cigna Group/The	CI	281.071	330.57	93,906.31	0.27%	1.69%	0.00%	11.65%	0.03%
Kinder Morgan Inc	KMI	2219.384	19.87	44,099.16	0.13%	5.79%	0.01%	5.86%	0.01%
Citigroup Inc	C	1907.41	63.46	121,046.14		3.34%		27.67%	
American International Group Inc	AIG	663.668	74.24	49,270.71	0.14%	2.16%	0.00%	14.09%	0.02%
Altria Group Inc	MO	1717.626	45.55	78,237.86	0.22%	8.61%	0.02%	3.89%	0.01%
HCA Healthcare Inc	HCA	261.914	321.28	84,147.73	0.24%	0.82%	0.00%	9.57%	0.02%
International Paper Co	IP	347.332	43.15	14,987.58		4.29%		-2.00%	
Hewlett Packard Enterprise Co	HPE	1299.673	21.17	27,514.08	0.08%	2.46%	0.00%	3.73%	0.00%
Abbott Laboratories	ABT	1739.631	103.91	180,765.37	0.52%	2.12%	0.01%	8.00%	0.04%
Aflac Inc	AFL	568.222	89.31	50,747.91	0.15%	2.24%	0.00%	7.55%	0.01%
Air Products and Chemicals Inc	APD	222.306	256.28	56,972.58	0.16%	2.76%	0.00%	9.63%	0.02%
Super Micro Computer Inc	SMCI	58.557	819.35	47,978.68				53.18%	
Royal Caribbean Cruises Ltd	RCL	257.349	159.43	41,029.15				29.92%	
Hess Corp	HES	308.109	147.52	45,452.24	0.13%	1.19%	0.00%	18.00%	0.02%
Archer-Daniels-Midland Co	ADM	494.438	60.15	29,888.78		3.31%		-2.85%	
Automatic Data Processing Inc	ADP	409.291	238.69	97,693.67	0.28%	2.35%	0.01%	11.31%	0.03%
Verisk Analytics Inc	VRSK	142.675	269.55	38,458.05	0.11%	0.58%	0.00%	11.71%	0.01%
AutoZone Inc	AZO	17.083	2964.1	50,635.72	0.15%			14.66%	0.02%
Linde PLC	LIN	480.676	438.81	210,925.44	0.60%	1.27%	0.01%	11.82%	0.07%
Avery Dennison Corp	AVY	80.553	218.65	17,612.91	0.05%	1.61%	0.00%	11.67%	0.01%
Enphase Energy Inc	ENPH	136.063	99.71	13,566.81	0.04%			18.17%	0.01%
MSCI Inc	MSCI	79.224	481.75	38,166.16	0.11%	1.33%	0.00%	11.58%	0.01%
Ball Corp	BALL	310.378	60.02	18,628.89	0.05%	1.33%	0.00%	12.89%	0.01%
Axon Enterprise Inc	AXON	75.467	294.24	22,205.41					
Dayforce Inc	DAY	155.562	49.6	7,715.88					

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Shares Outstg	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Bloomberg Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
Carrier Global Corp	CARR	901.012	63.08	56,835.81	0.16%	1.20%	0.00%	7.87%	0.01%
Bank of New York Mellon Corp/The	BK	747.816	59.89	44,786.70	0.13%	2.81%	0.00%	10.01%	0.01%
Otis Worldwide Corp	OTIS	401.323	96.26	38,920.13	0.11%	1.62%	0.00%	9.00%	0.01%
Baxter International Inc	BAX	509.58	33.45	17,045.45	0.05%	3.47%	0.00%	9.78%	0.00%
Becton Dickinson & Co	BDX	289.006	233.71	67,543.59	0.19%	1.63%	0.00%	7.77%	0.02%
Berkshire Hathaway Inc	BRK/B	1311.385	406.8	533,471.42					
Best Buy Co Inc	BBY	215.714	84.29	18,182.53		4.46%		-0.43%	
Boston Scientific Corp	BSX	1470.18	77.01	113,218.56	0.32%			12.08%	0.04%
Bristol-Myers Squibb Co	BMY	2027.1	41.53	84,185.46		5.78%		-4.12%	
Brown-Forman Corp	BF/B	305.537	43.19	13,196.14		2.02%		-1.26%	
Coterra Energy Inc	CTRA	741.233	26.67	19,848.69	0.06%	3.15%	0.00%	10.79%	0.01%
Campbell Soup Co	CPB	298.554	45.19	13,491.66	0.04%	3.28%	0.00%	8.14%	0.00%
Hilton Worldwide Holdings Inc	HLT	250.046	218.2	54,560.04	0.16%	0.27%	0.00%	15.52%	0.02%
Carnival Corp	CCL	1122.32	18.72	21,009.83					
Qorvo Inc	QRVO	95.629	116.04	11,096.79				20.04%	
Builders FirstSource Inc	BLDR	122.057	138.41	16,893.91	0.05%			4.81%	0.00%
UDR Inc	UDR	329.307	41.15	13,550.98	0.04%	4.13%	0.00%	1.85%	0.00%
Clorox Co/The	CLX	124.188	136.47	16,947.94	0.05%	3.52%	0.00%	15.46%	0.01%
Paycom Software Inc	PAYC	58.11	143.04	8,312.05	0.02%	1.05%	0.00%	6.00%	0.00%
CMS Energy Corp	CMS	298.635	59.53	17,777.74	0.05%	3.46%	0.00%	7.75%	0.00%
Colgate-Palmolive Co	CL	820.141	97.04	79,615.59	0.23%	2.06%	0.00%	8.36%	0.02%
EPAM Systems Inc	EPAM	57.974	188.11	10,905.49	0.03%			5.54%	0.00%
Conagra Brands Inc	CAG	478.063	28.42	13,586.55	0.04%	4.93%	0.00%	1.58%	0.00%
Airbnb Inc	ABNB	441.5	151.63	66,944.65				20.22%	
Consolidated Edison Inc	ED	341.924	89.42	30,843.10	0.09%	3.71%	0.00%	5.70%	0.01%
Corning Inc	GLW	856.619	38.85	33,279.65	0.10%	2.88%	0.00%	12.03%	0.01%
GoDaddy Inc	GDDY	140.941	139.71	19,690.87					
Cummins Inc	CMI	136.78	276.93	37,878.49	0.11%	2.43%	0.00%	7.56%	0.01%
Caesars Entertainment Inc	CZR	216.416	39.74	8,600.37				-32.44%	
Danaher Corp	DHR	740.687	249.85	185,060.65	0.53%	0.43%	0.00%	3.84%	0.02%
Target Corp	TGT	462.637	148.01	68,488.78	0.20%	3.03%	0.01%	13.97%	0.03%
Deere & Co	DE	275.57	373.63	102,961.22		1.57%		-6.84%	
Dominion Energy Inc	D	837.593	49	41,042.06	0.12%	5.45%	0.01%	11.59%	0.01%
Dover Corp	DOV	137.43	180.45	24,799.21	0.07%	1.13%	0.00%	7.56%	0.01%
Alliant Energy Corp	LNT	256.379	50.9	13,049.69	0.04%	3.77%	0.00%	6.00%	0.00%
Steel Dynamics Inc	STLD	157.133	129.5	20,348.72		1.42%		-4.60%	
Duke Energy Corp	DUK	771	100.23	77,277.33	0.22%	4.09%	0.01%	6.20%	0.01%
Regency Centers Corp	REG	184.581	62.2	11,480.91	0.03%	4.31%	0.00%	3.27%	0.00%
Eaton Corp PLC	ETN	399.892	313.55	125,386.14	0.36%	1.20%	0.00%	13.83%	0.05%
Ecolab Inc	ECL	285.57	238	67,965.66	0.19%	0.96%	0.00%	14.16%	0.03%
Revvity Inc	RVTY	123.393	104.86	12,938.99	0.04%	0.27%	0.00%	8.26%	0.00%
Emerson Electric Co	EMR	572.1	110.16	63,022.54	0.18%	1.91%	0.00%	15.07%	0.03%
EOG Resources Inc	EOG	574.711	125.87	72,338.87	0.21%	2.89%	0.01%	5.99%	0.01%
Aon PLC	AON	217.431	293.58	63,833.39	0.18%	0.92%	0.00%	10.38%	0.02%
Entergy Corp	ETR	213.273	107	22,820.21	0.07%	4.22%	0.00%	6.64%	0.00%
Equifax Inc	EFX	123.611	242.46	29,970.72	0.09%	0.64%	0.00%	15.31%	0.01%
EQT Corp	EQT	441.593	36.98	16,330.11		1.70%			
IQVIA Holdings Inc	IQV	182.2	211.41	38,521.37	0.11%			10.41%	0.01%
Gartner Inc	IT	77.63	449.06	34,860.53	0.10%			9.89%	0.01%
FedEx Corp	FDX	245.521	299.81	73,617.92	0.21%	1.84%	0.00%	13.35%	0.03%
FMC Corp	FMC	124.818	57.55	7,183.28	0.02%	4.03%	0.00%	18.88%	0.00%
Brown & Brown Inc	BRO	285.249	89.41	25,504.11	0.07%	0.58%	0.00%	9.77%	0.01%
Ford Motor Co	F	3921.485	12.54	49,175.42	0.14%	4.78%	0.01%	1.67%	0.00%
NextEra Energy Inc	NEE	2055	70.81	145,514.55	0.42%	2.91%	0.01%	9.59%	0.04%
Franklin Resources Inc	BEN	526.091	22.35	11,758.13		5.55%			
Garmin Ltd	GRMN	192.078	162.92	31,293.55	0.09%	1.84%	0.00%	8.04%	0.01%
Freeport-McMoRan Inc	FCX	1436.49	48.6	69,813.41	0.20%	1.23%	0.00%	17.27%	0.03%
Dexcom Inc	DXCM	397.681	113.38	45,089.41				25.63%	
General Dynamics Corp	GD	274.364	290.14	79,603.97	0.23%	1.96%	0.00%	14.18%	0.03%
General Mills Inc	GIS	558.146	63.26	35,308.32	0.10%	3.79%	0.00%	1.19%	0.00%
Genuine Parts Co	GPC	139.299	138.32	19,267.84		2.89%			
Atmos Energy Corp	ATO	150.877	116.65	17,599.80	0.05%	2.76%	0.00%	7.00%	0.00%
WW Grainger Inc	GWW	49.069	902.24	44,272.01		0.91%			
Halliburton Co	HAL	885.301	33.78	29,905.47	0.09%	2.01%	0.00%	10.30%	0.01%
L3Harris Technologies Inc	LHX	189.68	224.58	42,598.33	0.12%	2.07%	0.00%	8.53%	0.01%
Healthpeak Properties Inc	DOC	703.782	19.6	13,794.13	0.04%	6.12%	0.00%	4.48%	0.00%
Insulet Corp	PODD	70.04	201.8	14,134.07				28.44%	
Catalent Inc	CTLT	180.98	56.23	10,176.51				28.24%	
Fortive Corp	FTV	352.029	74.1	26,085.35	0.07%	0.43%	0.00%	8.98%	0.01%
Hershey Co/The	HSY	147.616	185.83	27,136.25	0.08%	2.98%	0.00%	2.36%	0.00%
Synchrony Financial	SYF	401.544	47.19	18,948.86		2.12%			
Hormel Foods Corp	HRL	548.305	30.49	16,717.82	0.05%	3.71%	0.00%	6.59%	0.00%
Arthur J Gallagher & Co	AJG	218.5	259.31	56,659.24	0.16%	0.93%	0.00%	12.55%	0.02%
Mondelez International Inc	MDLZ	1341.359	65.14	87,378.53	0.25%	2.60%	0.01%	7.65%	0.02%
CenterPoint Energy Inc	CNP	639.724	30.98	19,818.65	0.06%	2.58%	0.00%	7.95%	0.00%
Humana Inc	HUM	120.501	373.65	45,025.20		0.95%		-1.30%	

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Shares Outstg	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Bloomberg Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
Willis Towers Watson PLC	WTW	102.236	262.14	26,800.15	0.08%	1.34%	0.00%	12.41%	0.01%
Illinois Tool Works Inc	ITW	298.4	236.96	70,708.86	0.20%	2.36%	0.00%	7.26%	0.01%
CDW Corp/DE	CDW	134.398	223.81	30,083.65	0.09%	1.11%	0.00%	7.02%	0.01%
Trane Technologies PLC	TT	226.352	328.93	74,453.96	0.21%	1.02%	0.00%	13.47%	0.03%
Interpublic Group of Cos Inc/The	IPG	377.121	29.09	10,970.26	0.03%	4.51%	0.00%	3.36%	0.00%
International Flavors & Fragrances Inc	IFF	255.351	95.21	24,311.97	0.07%	1.68%	0.00%	0.23%	0.00%
Generac Holdings Inc	GNRC	60.614	132.22	8,014.38	0.02%			7.00%	0.00%
NXP Semiconductors NV	NXPI	255.684	269.09	68,802.01	0.20%	1.51%	0.00%	6.92%	0.01%
Kellanova	K	341.881	57.68	19,719.87	0.06%	3.88%	0.00%	8.42%	0.00%
Broadridge Financial Solutions Inc	BR	118.18	197	23,281.46		1.62%			
Kimberly-Clark Corp	KMB	336.709	138.2	46,533.18	0.13%	3.53%	0.00%	9.18%	0.01%
Kimco Realty Corp	KIM	674.116	19.46	13,118.30	0.04%	4.93%	0.00%	3.25%	0.00%
Oracle Corp	ORCL	2755.86	141.2	389,127.43	1.12%	1.13%	0.01%	15.06%	0.17%
Kroger Co/The	KR	721.791	49.93	36,039.02	0.10%	2.56%	0.00%	3.11%	0.00%
Lennar Corp	LEN	241.703	149.87	36,224.03	0.10%	1.33%	0.00%	4.30%	0.00%
Eli Lilly & Co	LLY	950.405	905.38	860,477.68		0.57%		40.01%	
Bath & Body Works Inc	BBWI	223.231	39.05	8,717.17	0.02%	2.05%	0.00%	13.41%	0.00%
Charter Communications Inc	CHTR	144.386	298.96	43,165.64	0.12%			5.00%	0.01%
Loews Corp	L	221.406	74.74	16,547.88		0.33%			
Lowe's Cos Inc	LOW	569.835	220.46	125,625.82	0.36%	2.09%	0.01%	4.03%	0.01%
Hubbell Inc	HUBB	53.686	365.48	19,621.16	0.06%	1.31%	0.00%	18.00%	0.01%
IDEX Corp	IEX	75.695	201.2	15,229.83		1.37%			
Marsh & McLennan Cos Inc	MMC	492.721	210.72	103,826.80	0.30%	1.35%	0.00%	8.12%	0.02%
Masco Corp	MAS	220.244	66.67	14,683.67	0.04%	1.74%	0.00%	8.64%	0.00%
S&P Global Inc	SPGI	320.257	446	142,834.62	0.41%	0.82%	0.00%	13.11%	0.05%
Medtronic PLC	MDT	1282.27	78.71	100,927.47	0.29%	3.56%	0.01%	5.61%	0.02%
Viatris Inc	VTRS	1190.676	10.63	12,656.89		4.52%		-2.57%	
CVS Health Corp	CVS	1255.373	59.06	74,142.33	0.21%	4.50%	0.01%	4.01%	0.01%
DuPont de Nemours Inc	DD	418.101	80.49	33,653.19	0.10%	1.89%	0.00%	1.03%	0.00%
Micron Technology Inc	MU	1108.841	131.53	145,845.86		0.35%		31.94%	
Motorola Solutions Inc	MSI	166.787	386.05	64,388.12	0.18%	1.02%	0.00%	8.89%	0.02%
Cboe Global Markets Inc	CBOE	105.154	170.06	17,882.49	0.05%	1.29%	0.00%	14.28%	0.01%
Newmont Corp	NEM	1153.163	41.87	48,282.93		2.39%		47.89%	
NIKE Inc	NKE	1211.462	75.37	91,307.89	0.26%	1.96%	0.01%	4.46%	0.01%
NiSource Inc	NI	448.305	28.81	12,915.67	0.04%	3.68%	0.00%	7.00%	0.00%
Norfolk Southern Corp	NSC	225.911	214.69	48,501.48	0.14%	2.52%	0.00%	9.42%	0.01%
Principal Financial Group Inc	PFG	234.384	78.45	18,387.42	0.05%	3.62%	0.00%	12.40%	0.01%
Eversource Energy	ES	350.727	56.71	19,889.73	0.06%	5.01%	0.00%	5.23%	0.00%
Northrop Grumman Corp	NOC	147.99	435.95	64,516.24	0.19%	1.89%	0.00%	18.34%	0.03%
Wells Fargo & Co	WFC	3486.315	59.39	207,052.25	0.59%	2.36%	0.01%	8.79%	0.05%
Nucor Corp	NUE	239.762	158.08	37,901.58		1.37%		-1.29%	
Occidental Petroleum Corp	OXY	886.637	63.03	55,881.73	0.16%	1.40%	0.00%	20.00%	0.03%
Omnicom Group Inc	OMC	195.834	89.7	17,566.31	0.05%	3.12%	0.00%	7.48%	0.00%
ONEOK Inc	OKE	583.647	81.55	47,596.41	0.14%	4.86%	0.01%	2.55%	0.00%
Raymond James Financial Inc	RJF	207.277	123.1601	25,528.26	0.07%	1.46%	0.00%	15.38%	0.01%
PG&E Corp	PCG	2133.508	17.46	37,251.05	0.11%	0.23%	0.00%	9.95%	0.01%
Parker-Hannifin Corp	PH	128.541	505.81	65,017.32	0.19%	1.29%	0.00%	13.84%	0.03%
Rollins Inc	ROL	484.23	48.79	23,625.58	0.07%	1.23%	0.00%	13.01%	0.01%
PPL Corp	PPL	737.124	27.65	20,381.48	0.06%	3.73%	0.00%	7.67%	0.00%
ConocoPhillips	COP	1169.534	114.38	133,771.30	0.38%	2.73%	0.01%	9.00%	0.03%
PulteGroup Inc	PHM	210.342	110.1	23,158.65	0.07%	0.73%	0.00%	7.65%	0.01%
Pinnacle West Capital Corp	PNW	113.557	76.38	8,673.48	0.02%	4.61%	0.00%	6.67%	0.00%
PNC Financial Services Group Inc/The	PNC	397.907	155.48	61,866.58		3.99%		31.00%	
PPG Industries Inc	PPG	235.361	125.89	29,629.60	0.08%	2.07%	0.00%	8.03%	0.01%
Progressive Corp/The	PGR	585.698	207.71	121,655.33		0.19%		33.41%	
Veralto Corp	VLTO	246.847	95.47	23,566.48		0.38%			
Public Service Enterprise Group Inc	PEG	498.587	73.7	36,745.86	0.11%	3.26%	0.00%	6.28%	0.01%
Cooper Cos Inc/The	COO	199.12	87.5	17,383.18	0.05%			10.00%	0.00%
Edison International	EIX	383.925	71.81	27,569.65	0.08%	4.34%	0.00%	7.30%	0.01%
Schlumberger NV	SLB	1429.338	47.18	67,436.17	0.19%	2.33%	0.00%	12.91%	0.02%
Charles Schwab Corp/The	SCHW	1777.281	73.69	130,967.84	0.38%	1.36%	0.01%	14.20%	0.05%
Sherwin-Williams Co/The	SHW	253.549	298.43	75,666.63	0.22%	0.96%	0.00%	9.56%	0.02%
West Pharmaceutical Services Inc	WST	72.843	329.39	23,993.76	0.07%	0.24%	0.00%	7.72%	0.01%
J M Smucker Co/The	SJM	106.433	109.01	11,605.45	0.03%	3.89%	0.00%	6.52%	0.00%
Snap-on Inc	SNA	52.719	261.39	13,780.22	0.04%	2.85%	0.00%	3.83%	0.00%
AMETEK Inc	AME	231.47	166.21	38,588.36	0.11%	0.67%	0.00%	7.43%	0.01%
Uber Technologies Inc	UBER	2089.52	72.68	151,866.31				61.05%	
Southern Co/The	SO	1094.633	77.57	84,910.68	0.24%	3.71%	0.01%	6.15%	0.01%
Truist Financial Corp	TFC	1338.096	38.85	51,985.03	0.15%	5.35%	0.01%	10.51%	0.02%
Southwest Airlines Co	LUV	598.156	28.61	17,121.83		2.52%			
W R Berkley Corp	WRB	255.662	78.58	20,089.92	0.06%	0.61%	0.00%	13.64%	0.01%
Stanley Black & Decker Inc	SWK	153.879	79.89	12,293.39	0.04%	4.06%	0.00%	7.00%	0.00%
Public Storage	PSA	175.829	287.65	50,577.21	0.15%	4.17%	0.01%	3.07%	0.00%
Arista Networks Inc	ANET	313.363	350.48	109,827.46	0.31%			15.58%	0.04%
Sysco Corp	SYY	497.982	71.39	35,550.93	0.10%	2.86%	0.00%	13.00%	0.01%
Corteva Inc	CTVA	687.797	53.94	37,099.77	0.11%	1.19%	0.00%	11.33%	0.01%

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Name	Ticker	[4] Shares Outstg	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Bloomberg Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
Texas Instruments Inc	TXN	910.482	194.53	177,116.06		2.67%		-1.14%	
Textron Inc	TXT	190.699	85.86	16,373.42	0.05%	0.09%	0.00%	10.05%	0.00%
Thermo Fisher Scientific Inc	TMO	381.716	553	211,088.95	0.61%	0.28%	0.00%	7.10%	0.04%
TJX Cos Inc/The	TJX	1130.149	110.1	124,429.40	0.36%	1.36%	0.00%	8.13%	0.03%
Globe Life Inc	GL	92.27	82.28	7,591.98	0.02%	1.17%	0.00%	7.00%	0.00%
Johnson Controls International plc	JCI	673.676	66.47	44,779.24	0.13%	2.23%	0.00%	9.45%	0.01%
Ulta Beauty Inc	ULTA	47.216	385.87	18,412.17	0.05%			6.46%	0.00%
Union Pacific Corp	UNP	610.122	226.26	138,046.20	0.40%	2.30%	0.01%	11.49%	0.05%
Keysight Technologies Inc	KEYS	174.539	136.75	23,868.21				-3.55%	
UnitedHealth Group Inc	UNH	920.385	509.26	468,715.27	1.34%	1.65%	0.02%	9.94%	0.13%
Blackstone Inc	BX	714.646	123.8	88,473.17		2.68%		25.93%	
Marathon Oil Corp	MRO	564.036	28.67	16,170.91		1.53%			
Bio-Rad Laboratories Inc	BIO	23.416	273.11	6,403.34					
Ventas Inc	VTR	404.774	50.81	20,566.57	0.06%	3.54%	0.00%	6.19%	0.00%
Labcorp Holdings Inc	LH	84.294	203.51	17,151.67	0.05%	1.42%	0.00%	9.46%	0.00%
Vulcan Materials Co	VMC	132.252	248.68	32,888.43	0.09%	0.74%	0.00%	15.71%	0.01%
Weyerhaeuser Co	WY	729.617	28.39	20,713.83		2.82%		-0.33%	
Williams Cos Inc/The	WMB	1218.754	42.5	51,797.05	0.15%	4.47%	0.01%	3.94%	0.01%
Constellation Energy Corp	CEG	315.121	200.27	63,109.28	0.18%	0.70%	0.00%	14.59%	0.03%
WEC Energy Group Inc	WEC	315.823	78.46	24,779.47	0.07%	4.26%	0.00%	6.85%	0.00%
Adobe Inc	ADBE	443.4	555.51	246,326.44	0.71%			16.27%	0.11%
Vistra Corp	VST	347.46	85.98	29,874.61		1.01%			
AES Corp/The	AES	710.667	17.57	12,486.42		3.93%			
Expeditors International of Washington Inc	EXPD	141.252	124.79	17,626.84	0.05%	1.17%	0.00%	4.39%	0.00%
Amgen Inc	AMGN	536.435	312.45	167,609.12	0.48%	2.88%	0.01%	6.22%	0.03%
Apple Inc	AAPL	15334.082	210.62	3,229,664.35	9.26%	0.47%	0.04%	12.73%	1.18%
Autodesk Inc	ADSK	215.509	247.45	53,327.70	0.15%			9.94%	0.02%
Cintas Corp	CTAS	101.463	700.26	71,050.48	0.20%	0.77%	0.00%	12.04%	0.02%
Comcast Corp	CMCSA	3914.182	39.16	153,279.37	0.44%	3.17%	0.01%	8.33%	0.04%
Molson Coors Beverage Co	TAP	197.551	50.83	10,041.52	0.03%	3.46%	0.00%	4.65%	0.00%
KLA Corp	KLAC	134.64	824.51	111,012.03	0.32%	0.70%	0.00%	8.99%	0.03%
Marriott International Inc/MD	MAR	285.622	241.77	69,054.83	0.20%	1.04%	0.00%	5.56%	0.01%
Fiserv Inc	FI	585.102	149.01	87,203.60	0.25%			11.74%	0.03%
McCormick & Co Inc/MD	MKC	252.015	70.94	17,877.91	0.05%	2.37%	0.00%	5.85%	0.00%
PACCAR Inc	PCAR	524.145	102.94	53,955.49		1.17%		-2.16%	
Costco Wholesale Corp	COST	443.335	849.99	376,850.32	1.08%	0.55%	0.01%	9.64%	0.10%
Stryker Corp	SYK	380.95	340.25	129,618.24	0.37%	0.94%	0.00%	8.39%	0.03%
Tyson Foods Inc	TSN	286.016	57.14	16,342.95		3.43%		53.92%	
Lamb Weston Holdings Inc	LW	144.391	84.08	12,140.40	0.03%	1.71%	0.00%	11.00%	0.00%
Applied Materials Inc	AMAT	827.975	235.99	195,393.82	0.56%	0.68%	0.00%	15.06%	0.08%
American Airlines Group Inc	AAL	653.541	11.33	7,404.62				-4.75%	
Cardinal Health Inc	CAH	243.567	97.8141	23,821.36	0.07%	2.07%	0.00%	11.98%	0.01%
Cincinnati Financial Corp	CINF	156.558	118.1	18,489.50	0.05%	2.74%	0.00%	7.33%	0.00%
Paramount Global	PARA	625.776	10.39	6,501.81		1.92%		15.42%	
DR Horton Inc	DHI	329.312	140.93	46,409.94	0.13%	0.85%	0.00%	4.37%	0.01%
Electronic Arts Inc	EA	265.735	139.33	37,021.86	0.11%	0.55%	0.00%	12.24%	0.01%
Fair Isaac Corp	FICO	24.711	1488.66	36,786.28					
Fastenal Co	FAST	572.427	62.84	35,971.31		2.48%			
M&T Bank Corp	MTB	166.854	151.36	25,255.02	0.07%	3.57%	0.00%	5.82%	0.00%
Xcel Energy Inc	XEL	555.639	53.41	29,676.68	0.09%	4.10%	0.00%	7.13%	0.01%
Fifth Third Bancorp	FITB	684.045	36.49	24,960.80		3.84%		25.00%	
Gilead Sciences Inc	GILD	1245.853	68.61	85,477.97	0.25%	4.49%	0.01%	14.05%	0.03%
Hasbro Inc	HAS	139.216	58.5	8,144.14		4.79%		25.99%	
Huntington Bancshares Inc/OH	HBAN	1449.251	13.18	19,101.17	0.05%	4.70%	0.00%	4.46%	0.00%
Welltower Inc	WELL	597.916	104.25	62,332.74	0.18%	2.34%	0.00%	14.68%	0.03%
Biogen Inc	BIIB	145.597	231.82	33,752.30	0.10%			5.36%	0.01%
Northern Trust Corp	NTRS	204.592	83.98	17,181.64	0.05%	3.57%	0.00%	10.80%	0.01%
Packaging Corp of America	PKG	89.798	182.56	16,393.52	0.05%	2.74%	0.00%	4.44%	0.00%
Paychex Inc	PAYX	359.963	118.56	42,677.21		3.31%			
QUALCOMM Inc	QCOM	1116	199.18	222,281.88	0.64%	1.71%	0.01%	11.88%	0.08%
Ross Stores Inc	ROST	333.575	145.32	48,475.12		1.01%		188.00%	
IDEXX Laboratories Inc	IDXX	82.587	487.2	40,236.39	0.12%			11.11%	0.01%
Starbucks Corp	SBUX	1132.7	77.85	88,180.70	0.25%	2.93%	0.01%	10.71%	0.03%
KeyCorp	KEY	942.86	14.21	13,398.01	0.04%	5.77%	0.00%	19.11%	0.01%
Fox Corp	FOXA	231.15	34.37	7,944.63	0.02%	1.51%	0.00%	6.84%	0.00%
Fox Corp	FOX	235.581	32.02	7,543.30	0.02%	1.62%	0.00%	6.84%	0.00%
State Street Corp	STT	301.259	73.31	22,085.30	0.06%	3.76%	0.00%	8.07%	0.01%
Norwegian Cruise Line Holdings Ltd	NCLH	429.041	18.79	8,061.68				51.83%	
US Bancorp	USB	1560.46	39.7	61,950.26	0.18%	4.94%	0.01%	2.71%	0.00%
A O Smith Corp	AOS	120.784	81.78	9,877.72		1.57%			
Gen Digital Inc	GEN	626.146	24.98	15,641.13	0.04%	2.00%	0.00%	10.16%	0.00%
T Rowe Price Group Inc	TROW	223.3	115.31	25,748.72	0.07%	4.30%	0.00%	5.88%	0.00%
Waste Management Inc	WM	401.083	213.34	85,567.05	0.25%	1.41%	0.00%	11.11%	0.03%
Constellation Brands Inc	STZ	182.351	257.28	46,916.01	0.13%	1.57%	0.00%	11.21%	0.02%
Invesco Ltd	IVZ	449.831	14.96	6,729.47	0.02%	5.48%	0.00%	8.71%	0.00%
Intuit Inc	INTU	279.547	652.21	183,721.08	0.53%	0.55%	0.00%	15.15%	0.08%

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		[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Name	Ticker	Shares Outstg	Price	Market Capitalization	Weight in Index	Estimated Dividend Yield	Cap-Weighted Dividend Yield	Bloomberg Growth Est.	Cap-Weighted Long-Term Growth Est.
Morgan Stanley	MS	1625.163	97.19	157,949.59	0.45%	3.50%	0.02%	9.19%	0.04%
Microchip Technology Inc	MCHP	536.886	91.5	49,125.07		1.98%		-9.39%	
Crowdstrike Holdings Inc	CRWD	250.883	383.19	88,172.06	0.25%			19.85%	0.05%
Chubb Ltd	CB	406.061	255.08	103,578.04	0.30%	1.43%	0.00%	1.99%	0.01%
Hologic Inc	HOLX	233.377	74.25	17,328.21	0.05%			7.36%	0.00%
Citizens Financial Group Inc	CFG	455.02	36.03	16,394.37		4.66%			
Jabil Inc	JBL	120.597	108.79	13,119.75	0.04%	0.29%	0.00%	7.13%	0.00%
O'Reilly Automotive Inc	ORLY	58.894	1056.06	62,195.60	0.18%			11.00%	0.02%
Allstate Corp/The	ALL	263.915	159.66	42,136.67		2.30%		169.00%	
Equity Residential	EQR	378.94	68.665	26,019.92	0.07%	3.93%	0.00%	3.98%	0.00%
BorgWarner Inc	BWA	227.858	32.24	7,345.50	0.02%	1.36%	0.00%	4.17%	0.00%
Keurig Dr Pepper Inc	KDP	1355.574	33.4	45,276.17	0.13%	2.57%	0.00%	7.06%	0.01%
Host Hotels & Resorts Inc	HST	703.6	17.98	12,650.73		4.45%		-0.49%	
Incyte Corp	INCY	224.855	60.62	13,630.71	0.04%			19.22%	0.01%
Simon Property Group Inc	SPG	325.766	151.8	49,451.28	0.14%	5.27%	0.01%	1.31%	0.00%
Eastman Chemical Co	EMN	117.649	97.97	11,526.07	0.03%	3.31%	0.00%	6.19%	0.00%
AvalonBay Communities Inc	AVB	142.186	206.89	29,416.86	0.08%	3.29%	0.00%	7.71%	0.01%
Prudential Financial Inc	PRU	359	117.19	42,071.21	0.12%	4.44%	0.01%	9.96%	0.01%
United Parcel Service Inc	UPS	729.399	136.85	99,818.25	0.29%	4.76%	0.01%	6.39%	0.02%
Walgreens Boots Alliance Inc	WBA	863.275	12.095	10,441.31		8.27%		-10.00%	
STERIS PLC	STE	98.9	219.54	21,712.51		0.95%			
McKesson Corp	MCK	129.711	584.04	75,756.41	0.22%	0.42%	0.00%	11.67%	0.03%
Lockheed Martin Corp	LMT	239.938	467.1	112,075.04	0.32%	2.70%	0.01%	2.21%	0.01%
Cencora Inc	COR	196.929	225.3	44,368.10	0.13%	0.91%	0.00%	10.82%	0.01%
Capital One Financial Corp	COF	381.922	138.45	52,877.10	0.15%	1.73%	0.00%	12.00%	0.02%
Waters Corp	WAT	59.32	290.12	17,209.92	0.05%			5.12%	0.00%
Nordson Corp	NDSN	57.269	231.94	13,282.97		1.17%			
Dollar Tree Inc	DLTR	214.944	106.77	22,949.57	0.07%			12.39%	0.01%
Darden Restaurants Inc	DRI	119.359	151.32	18,061.40	0.05%	3.70%	0.00%	9.82%	0.01%
Evergy Inc	EVRG	229.746	52.97	12,169.65	0.03%	4.85%	0.00%	5.00%	0.00%
Match Group Inc	MTCH	265.668	30.38	8,070.99				35.69%	
Domino's Pizza Inc	DPZ	34.88	516.33	18,009.59	0.05%	1.17%	0.00%	14.43%	0.01%
NVR Inc	NVR	3.132	7588.56	23,767.37	0.07%			4.87%	0.00%
NetApp Inc	NTAP	205.802	128.8	26,507.50	0.08%	1.61%	0.00%	5.26%	0.00%
Old Dominion Freight Line Inc	ODFL	217.285	176.6	38,372.53	0.11%	0.59%	0.00%	5.45%	0.01%
DaVita Inc	DVA	87.7	138.57	12,152.59	0.03%			15.98%	0.01%
Hartford Financial Services Group Inc/The	HIG	295.755	100.54	29,735.21	0.09%	1.87%	0.00%	12.22%	0.01%
Iron Mountain Inc	IRM	293.133	89.62	26,270.58	0.08%	2.90%	0.00%	4.00%	0.00%
Estee Lauder Cos Inc/The	EL	233.022	106.4	24,793.54	0.07%	2.48%	0.00%	16.13%	0.01%
Cadence Design Systems Inc	CDNS	273.875	307.75	84,285.03	0.24%			15.67%	0.04%
Tyler Technologies Inc	TYL	42.455	502.78	21,345.52					
Universal Health Services Inc	UHS	59.678	184.93	11,036.25	0.03%	0.43%	0.00%	17.81%	0.01%
Skyworks Solutions Inc	SWKS	160.447	106.58	17,100.44		2.55%		-1.59%	
Quest Diagnostics Inc	DGX	111.092	136.88	15,206.27		2.19%		-0.82%	
Rockwell Automation Inc	ROK	114.003	275.28	31,382.75	0.09%	1.82%	0.00%	5.23%	0.00%
Kraft Heinz Co/The	KHC	1214.298	32.22	39,124.68	0.11%	4.97%	0.01%	3.77%	0.00%
American Tower Corp	AMT	466.975	194.38	90,770.60	0.26%	3.33%	0.01%	11.49%	0.03%
Regeneron Pharmaceuticals Inc	REGN	108.367	1051.03	113,896.97				34.31%	
Amazon.com Inc	AMZN	10406.627	193.25	2,011,080.67				28.96%	
Jack Henry & Associates Inc	JKHY	72.9	166.02	12,102.86	0.03%	1.33%	0.00%	7.46%	0.00%
Ralph Lauren Corp	RL	40.774	175.06	7,137.90	0.02%	1.89%	0.00%	11.05%	0.00%
BXP Inc	BXP	157.049	61.56	9,667.91	0.03%	6.37%	0.00%	0.23%	0.00%
Amphenol Corp	APH	1201.208	67.37	80,925.38	0.23%	0.65%	0.00%	13.37%	0.03%
Howmet Aerospace Inc	HWM	408.183	77.63	31,687.25	0.09%	0.26%	0.00%	19.82%	0.02%
Valero Energy Corp	VLO	326.996	156.76	51,259.89		2.73%		-24.00%	
Synopsys Inc	SNPS	153.216	595.06	91,172.71	0.26%			16.59%	0.04%
Etsy Inc	ETSY	116.933	58.98	6,896.71	0.02%			7.51%	0.00%
CH Robinson Worldwide Inc	CHRW	117.095	88.12	10,318.41	0.03%	2.77%	0.00%	13.90%	0.00%
Accenture PLC	ACN	628.729	303.41	190,762.67	0.55%	1.70%	0.01%	5.80%	0.03%
TransDigm Group Inc	TDG	55.958	1277.61	71,492.50	0.21%			16.91%	0.03%
Yum! Brands Inc	YUM	281.632	132.46	37,304.97	0.11%	2.02%	0.00%	10.66%	0.01%
Prologis Inc	PLD	925.841	112.31	103,981.54	0.30%	3.42%	0.01%	7.57%	0.02%
FirstEnergy Corp	FE	575.516	38.27	22,025.00	0.06%	4.44%	0.00%	5.65%	0.00%
VeriSign Inc	VRSN	100.139	177.8	17,801.71					
Quanta Services Inc	PWR	146.388	254.0001	37,182.57	0.11%	0.14%	0.00%	12.00%	0.01%
Henry Schein Inc	HSIC	128.051	64.1	8,208.07	0.02%			7.53%	0.00%
Ameren Corp	AEE	266.511	71.11	18,951.60	0.05%	3.77%	0.00%	6.00%	0.00%
ANSYS Inc	ANSS	87.3	321.5	28,066.95	0.08%			6.37%	0.01%
FactSet Research Systems Inc	FDS	38.116	408.27	15,561.62	0.04%	1.02%	0.00%	9.34%	0.00%
NVIDIA Corp	NVDA	24600	123.54	3,039,084.00		0.03%		42.80%	
Cognizant Technology Solutions Corp	CTSH	497.199	68	33,809.53	0.10%	1.76%	0.00%	5.15%	0.00%
Intuitive Surgical Inc	ISRG	354.706	444.85	157,790.96	0.45%			16.41%	0.07%
Take-Two Interactive Software Inc	TTWO	171.385	155.49	26,648.65				64.77%	
Republic Services Inc	RSG	314.975	194.54	61,272.24	0.18%	1.10%	0.00%	10.52%	0.02%
eBay Inc	EBAY	506	53.72	27,182.32	0.08%	2.01%	0.00%	8.83%	0.01%
Goldman Sachs Group Inc/The	GS	322.463	452.32	145,856.46	0.42%	2.43%	0.01%	14.02%	0.06%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Shares Outst'g	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Bloomberg Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
SBA Communications Corp	SBAC	107.443	196.3	21,091.06		2.00%		23.41%	
Sempra	SRE	632.846	76.06	48,134.27	0.14%	3.26%	0.00%	6.00%	0.01%
Moody's Corp	MCO	182.6	420.93	76,861.82	0.22%	0.81%	0.00%	11.79%	0.03%
ON Semiconductor Corp	ON	430.232	68.55	29,492.40	0.08%			2.64%	0.00%
Booking Holdings Inc	BKNG	33.928	3961.5	134,405.77	0.39%	0.88%	0.00%	15.03%	0.06%
F5 Inc	FFIV	58.611	172.23	10,094.57	0.03%			7.81%	0.00%
Akamai Technologies Inc	AKAM	152.317	90.08	13,720.72	0.04%			1.54%	0.00%
Charles River Laboratories International Inc	CRL	51.512	206.58	10,641.35	0.03%			9.81%	0.00%
MarketAxess Holdings Inc	MKTX	37.897	200.53	7,599.49	0.02%	1.48%	0.00%	3.07%	0.00%
Devon Energy Corp	DVN	632	47.4	29,956.80	0.09%	2.95%	0.00%	7.22%	0.01%
Bio-Techne Corp	TECH	157.585	71.65	11,290.97		0.45%			
Alphabet Inc	GOOGL	5874	182.15	1,069,949.10	3.07%	0.44%	0.01%	15.01%	0.46%
Teleflex Inc	TFX	47.103	210.33	9,907.17	0.03%	0.65%	0.00%	2.51%	0.00%
Allegion plc	ALLE	87.441	118.15	10,331.15	0.03%	1.63%	0.00%	7.25%	0.00%
Netflix Inc	NFLX	430.901	674.88	290,806.47				35.61%	
Warner Bros Discovery Inc	WBD	2450.313	7.44	18,230.33				34.78%	
Agilent Technologies Inc	A	291.761	129.63	37,820.98	0.11%	0.73%	0.00%	5.23%	0.01%
Trimble Inc	TRMB	244.208	55.92	13,656.11	0.04%			10.00%	0.00%
Elevance Health Inc	ELV	232.418	541.86	125,938.02	0.36%	1.20%	0.00%	12.03%	0.04%
CME Group Inc	CME	360.062	196.6	70,788.19	0.20%	2.34%	0.00%	4.90%	0.01%
Juniper Networks Inc	JNPR	321.988	36.46	11,849.06	0.03%	2.41%	0.00%	4.78%	0.00%
BlackRock Inc	BLK	148.6	787.32	116,995.75	0.34%	2.59%	0.01%	11.89%	0.04%
DTE Energy Co	DTE	206.925	111.01	22,970.71	0.07%	3.68%	0.00%	9.20%	0.01%
Celanese Corp	CE	109.22	134.89	14,732.69	0.04%	2.08%	0.00%	3.69%	0.00%
Nasdaq Inc	NDAQ	576.533	60.26	34,741.88	0.10%	1.59%	0.00%	5.72%	0.01%
Philip Morris International Inc	PM	1554.557	101.33	157,523.26	0.45%	5.13%	0.02%	8.99%	0.04%
Ingersoll Rand Inc	IR	403.432	90.84	36,647.76	0.11%	0.09%	0.00%	16.00%	0.02%
Salesforce Inc	CRM	969	257.1	249,129.90	0.71%	0.62%	0.00%	17.34%	0.12%
Roper Technologies Inc	ROP	107.045	563.66	60,336.98		0.53%			
Huntington Ingalls Industries Inc	HII	39.433	246.33	9,713.53	0.03%	2.11%	0.00%	7.78%	0.00%
MetLife Inc	MET	711.123	70.19	49,913.72	0.14%	3.11%	0.00%	13.85%	0.02%
Tapestry Inc	TPR	229.773	42.79	9,831.99	0.03%	3.27%	0.00%	9.91%	0.00%
CSX Corp	CSX	1954.927	33.45	65,392.31	0.19%	1.43%	0.00%	10.76%	0.02%
Edwards Lifesciences Corp	EW	601.3	92.37	55,542.08	0.16%			9.03%	0.01%
Ameriprise Financial Inc	AMP	99.325	427.19	42,430.65		1.39%			
Zebra Technologies Corp	ZBRA	51.419	308.93	15,881.87					
Zimmer Biomet Holdings Inc	ZBH	205.728	108.53	22,327.66	0.06%	0.88%	0.00%	7.00%	0.00%
Camden Property Trust	CPT	106.535	109.11	11,624.03	0.03%	3.78%	0.00%	1.59%	0.00%
CBRE Group Inc	CBRE	306.824	89.11	27,341.09					
Mastercard Inc	MA	922.47	441.16	406,956.87	1.17%	0.60%	0.01%	15.51%	0.18%
CarMax Inc	KMX	156.079	73.34	11,446.83	0.03%			18.30%	0.01%
Intercontinental Exchange Inc	ICE	573.585	136.89	78,518.05	0.23%	1.31%	0.00%	8.96%	0.02%
Fidelity National Information Services Inc	FIS	556.251	75.36	41,919.08		1.91%		21.47%	
Chipotle Mexican Grill Inc	CMG	1373.365	62.65	86,041.32				22.88%	
Wynn Resorts Ltd	WYNN	112.071	89.5	10,030.35		1.12%		-3.85%	
Live Nation Entertainment Inc	LYV	231.443	93.74	21,695.47					
Assurant Inc	AIZ	51.986	166.25	8,642.67	0.02%	1.73%	0.00%	6.19%	0.00%
NRG Energy Inc	NRG	208.476	77.86	16,231.91	0.05%	2.09%	0.00%	3.00%	0.00%
Monster Beverage Corp	MNST	1041.728	49.95	52,034.31	0.15%			12.72%	0.02%
Regions Financial Corp	RF	915.827	20.04	18,353.17	0.05%	4.79%	0.00%	4.18%	0.00%
Baker Hughes Co	BKR	997.998	35.17	35,099.59		2.39%		69.47%	
Mosaic Co/The	MOS	321.393	28.9	9,288.26		2.91%		-18.32%	
Expedia Group Inc	EXPE	127.224	125.99	16,028.95				22.40%	
CF Industries Holdings Inc	CF	182.782	74.12	13,547.80		2.70%		-4.63%	
APA Corp	APA	371.192	29.44	10,927.89	0.03%	3.40%	0.00%	18.81%	0.01%
Leidos Holdings Inc	LDOS	135.212	145.88	19,724.73	0.06%	1.01%	0.00%	10.53%	0.01%
Alphabet Inc	GOOG	5617	183.42	1,030,270.14	2.95%	0.44%	0.01%	15.01%	0.44%
First Solar Inc	FSLR	107.041	225.46	24,133.46				42.58%	
TE Connectivity Ltd	TEL	306.228	150.43	46,065.88	0.13%	1.73%	0.00%	5.04%	0.01%
Discover Financial Services	DFS	250.599	130.81	32,780.86		2.14%		61.19%	
Visa Inc	V	1574.152	262.47	413,167.68	1.18%	0.79%	0.01%	13.05%	0.15%
Mid-America Apartment Communities Inc	MAA	116.688	142.61	16,640.88	0.05%	4.12%	0.00%	0.83%	0.00%
Xylem Inc/NY	XYL	242.447	135.63	32,883.09		1.06%			
Marathon Petroleum Corp	MPC	352.33	173.48	61,122.21		1.90%			
Tractor Supply Co	TSCO	107.81	270	29,108.70	0.08%	1.63%	0.00%	5.15%	0.00%
Advanced Micro Devices Inc	AMD	1616.314	162.21	262,182.29				31.82%	
ResMed Inc	RMD	146.907	191.42	28,120.94	0.08%	1.00%	0.00%	13.45%	0.01%
Mettler-Toledo International Inc	MTD	21.357	1397.59	29,848.33	0.09%			9.29%	0.01%
VICI Properties Inc	VICI	1043.137	28.64	29,875.44	0.09%	5.80%	0.00%	5.44%	0.00%
Copart Inc	CPRT	962.298	54.16	52,118.06					
Jacobs Solutions Inc	J	125.213	139.71	17,493.51	0.05%	0.83%	0.00%	10.76%	0.01%
Albemarle Corp	ALB	117.527	95.52	11,226.18		1.68%		-12.68%	
Fortinet Inc	FTNT	763.938	60.27	46,042.54	0.13%			9.59%	0.01%
Moderna Inc	MRNA	383.24	118.75	45,509.75	0.13%			17.71%	0.02%
Essex Property Trust Inc	ESS	64.206	272.2	17,476.87	0.05%	3.60%	0.00%	4.64%	0.00%
CoStar Group Inc	CSGP	408.342	74.14	30,274.48	0.09%			15.09%	0.01%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Shares Outst'g	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Bloomberg Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
Realty Income Corp	O	870.774	52.557	45,765.27	0.13%	6.00%	0.01%	2.17%	0.00%
Westrock Co	WRK	258.148	50.26	12,974.52	0.04%	2.41%	0.00%	11.18%	0.00%
Westinghouse Air Brake Technologies Corp	WAB	176.385	158.05	27,877.65	0.08%	0.51%	0.00%	15.49%	0.01%
Pool Corp	POOL	38.329	307.33	11,779.65		1.56%			
Western Digital Corp	WDC	326.525	75.77	24,740.80				-10.00%	
PepsiCo Inc	PEP	1374.786	164.93	226,743.45	0.65%	3.29%	0.02%	7.91%	0.05%
Diamondback Energy Inc	FANG	178.341	200.19	35,702.69	0.10%	3.94%	0.00%	9.67%	0.01%
Palo Alto Networks Inc	PANW	323.8	339.01	109,771.44	0.31%			14.33%	0.05%
ServiceNow Inc	NOW	205	786.67	161,267.35				25.00%	
Church & Dwight Co Inc	CHD	244.523	103.68	25,352.14	0.07%	1.09%	0.00%	8.02%	0.01%
Federal Realty Investment Trust	FRT	82.775	100.97	8,357.79	0.02%	4.32%	0.00%	4.11%	0.00%
MGM Resorts International	MGM	313.68	44.44	13,939.94	0.04%			15.86%	0.01%
American Electric Power Co Inc	AEP	526.59	87.74	46,203.01	0.13%	4.01%	0.01%	6.00%	0.01%
Invitation Homes Inc	INVH	612.536	35.89	21,983.92	0.06%	3.12%	0.00%	5.86%	0.00%
PTC Inc	PTC	119.741	181.67	21,753.89	0.06%			14.94%	0.01%
JB Hunt Transport Services Inc	JBHT	103.197	160	16,511.52	0.05%	1.08%	0.00%	11.79%	0.01%
Lam Research Corp	LRCX	130.736	1064.85	139,214.23	0.40%	0.75%	0.00%	8.61%	0.03%
Mohawk Industries Inc	MHK	63.863	113.59	7,254.20	0.02%			2.74%	0.00%
GE HealthCare Technologies Inc	GEHC	456.465	77.92	35,567.75	0.10%	0.15%	0.00%	11.26%	0.01%
Pentair PLC	PNR	166.025	76.67	12,729.14	0.04%	1.20%	0.00%	13.13%	0.00%
Vertex Pharmaceuticals Inc	VRTX	258.053	468.72	120,951.60	0.35%			12.79%	0.04%
Amcor PLC	AMCR	1445.343	9.78	14,135.45	0.04%	5.11%	0.00%	2.32%	0.00%
Meta Platforms Inc	META	2191.446	504.22	1,104,970.90	3.17%	0.40%	0.01%	18.58%	0.59%
T-Mobile US Inc	TMUS	1171.854	176.18	206,457.24	0.59%	1.48%	0.01%	5.00%	0.03%
United Rentals Inc	URI	66.59	646.73	43,065.75	0.12%	1.01%	0.00%	5.27%	0.01%
Alexandria Real Estate Equities Inc	ARE	174.883	116.97	20,456.06	0.06%	4.45%	0.00%	4.21%	0.00%
Honeywell International Inc	HON	651.186	213.51	139,051.26	0.40%	2.02%	0.01%	8.98%	0.04%
Delta Air Lines Inc	DAL	645.312	47.44	30,613.60	0.09%	1.26%	0.00%	12.00%	0.01%
United Airlines Holdings Inc	UAL	328.803	48.66	15,999.55	0.05%			12.79%	0.01%
Seagate Technology Holdings PLC	STX	209.989	103.27	21,685.56		2.71%			
News Corp	NWS	190.681	28.39	5,413.52		0.70%			
Centene Corp	CNC	533.656	66.3	35,381.39	0.10%			5.16%	0.01%
Martin Marietta Materials Inc	MLM	61.64	541.8	33,396.55	0.10%	0.55%	0.00%	9.77%	0.01%
Teradyne Inc	TER	156.112	148.29	23,149.85	0.07%	0.32%	0.00%	17.47%	0.01%
PayPal Holdings Inc	PYPL	1046.046	58.03	60,702.05	0.17%			8.69%	0.02%
Tesla Inc	TSLA	3189.196	197.88	631,078.10				-7.00%	
KKR & Co Inc	KKR	887.402	105.24	93,390.19		0.67%			
Arch Capital Group Ltd	ACGL	375.491	100.89	37,883.59	0.11%			4.41%	0.00%
Dow Inc	DOW	703.268	53.05	37,308.37	0.11%	5.28%	0.01%	1.46%	0.00%
Everest Group Ltd	EG	43.458	381.02	16,558.57	0.05%	2.10%	0.00%	1.85%	0.00%
Teledyne Technologies Inc	TDY	47.422	387.98	18,398.79	0.05%			7.34%	0.00%
GE Vernova Inc	GEV	271.086	171.51	47,008.49					
News Corp	NWSA	379.205	27.57	10,454.68		0.73%			
Exelon Corp	EXC	999.735	34.61	34,600.83	0.10%	4.39%	0.00%	5.60%	0.01%
Global Payments Inc	GPN	255.25	96.7	24,682.68	0.07%	1.03%	0.00%	9.40%	0.01%
Crown Castle Inc	CCI	434.523	97.7	42,452.90	0.12%	6.41%	0.01%	0.81%	0.00%
Aptiv PLC	APTV	272.062	70.42	19,158.61				24.81%	
Align Technology Inc	ALGN	75.282	241.43	18,175.53	0.05%			11.74%	0.01%
Kenvue Inc	KVUE	1914.811	18.18	34,811.26	0.10%	4.40%	0.00%	15.93%	0.02%
Targa Resources Corp	TRGP	221.717	128.78	28,552.72		2.33%		21.12%	
Bunge Global SA	BG	141.595	106.77	15,118.10		2.55%		-8.30%	
LKQ Corp	LKQ	266.776	41.59	11,095.21		2.89%			
Deckers Outdoor Corp	DECK	25.442	967.95	24,626.58	0.07%			8.39%	0.01%
Zoetis Inc	ZTS	456.295	173.56	79,103.30	0.23%	1.00%	0.00%	10.36%	0.02%
Equinix Inc	EQIX	94.906	756.6	71,805.88	0.21%	2.25%	0.00%	10.10%	0.02%
Digital Realty Trust Inc	DLR	324.502	152.05	49,340.53	0.14%	3.21%	0.00%	2.08%	0.00%
Molina Healthcare Inc	MOH	59	297.3	17,540.70	0.05%			11.72%	0.01%
Las Vegas Sands Corp	LVS	745.047	44.25	32,968.33		1.81%			

Notes:

[1] Equals sum of Col. [9]
[2] Equals sum of Col. [11]
[3] Equals ([1] x (1 − (0.5 x [2]))) − [2]
[4] Bloomberg Professional as of June 30, 2024
[5] Bloomberg Professional as of June 30, 2024
[6] Equals [4] x [5]
[7] Equals weight in S&P 500 based on market capitalization [6] if Growth Rate >0% and ≤20%
[8] Bloomberg Professional, as of June 30, 2024
[9] Equals [7] x [8]
[10] Bloomberg, as of June 30, 2024
[11] Equals [7] x [10]

BOND YIELD PLUS RISK PREMIUM

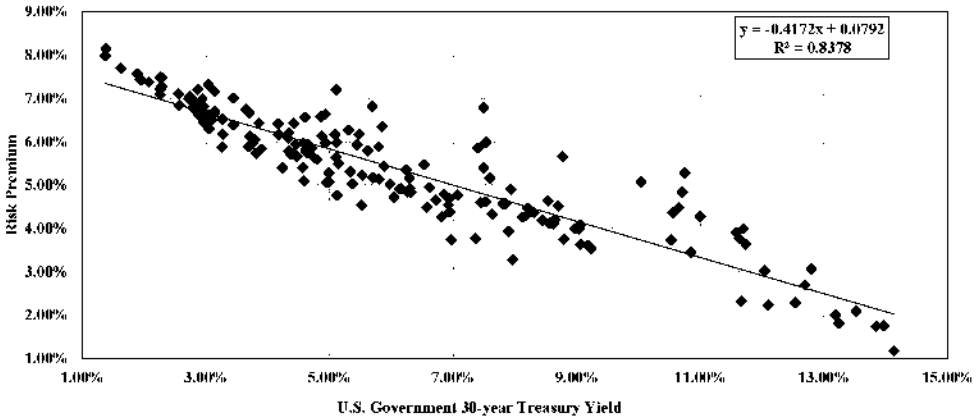
	[1]	[2]	[3]
Quarter	Average Authorized Electric ROE	U.S. Govt. 30-year Treasury	Risk Premium
1980.1	13.97%	11.66%	2.31%
1980.2	14.25%	10.52%	3.73%
1980.3	14.30%	10.85%	3.45%
1980.4	14.32%	12.10%	2.23%
1981.1	14.82%	12.53%	2.28%
1981.2	15.05%	13.24%	1.81%
1981.3	15.31%	14.13%	1.17%
1981.4	15.59%	13.85%	1.74%
1982.1	15.71%	13.96%	1.75%
1982.2	15.60%	13.52%	2.08%
1982.3	15.85%	12.79%	3.06%
1982.4	16.03%	10.75%	5.28%
1983.1	15.54%	10.71%	4.83%
1983.2	15.13%	10.65%	4.48%
1983.3	15.39%	11.62%	3.77%
1983.4	15.37%	11.74%	3.63%
1984.1	15.06%	12.04%	3.02%
1984.2	15.18%	13.18%	2.00%
1984.3	15.38%	12.69%	2.69%
1984.4	15.69%	11.70%	3.99%
1985.1	15.48%	11.58%	3.90%
1985.2	15.27%	11.00%	4.27%
1985.3	14.91%	10.55%	4.36%
1985.4	15.11%	10.04%	5.07%
1986.1	14.42%	8.77%	5.65%
1986.2	14.27%	7.49%	6.78%
1986.3	13.26%	7.40%	5.86%
1986.4	13.52%	7.53%	5.99%
1987.1	12.90%	7.49%	5.40%
1987.2	13.17%	8.53%	4.64%
1987.3	13.14%	9.06%	4.08%
1987.4	12.76%	9.23%	3.53%
1988.1	12.74%	8.63%	4.11%
1988.2	12.70%	9.06%	3.63%
1988.3	12.78%	9.18%	3.60%
1988.4	12.97%	8.97%	4.00%
1989.1	13.02%	9.04%	3.99%
1989.2	13.22%	8.70%	4.52%
1989.3	12.38%	8.12%	4.26%
1989.4	12.83%	7.93%	4.90%
1990.1	12.62%	8.44%	4.19%
1990.2	12.85%	8.65%	4.20%
1990.3	12.54%	8.79%	3.75%
1990.4	12.68%	8.56%	4.12%
1991.1	12.66%	8.20%	4.46%
1991.2	12.67%	8.31%	4.36%
1991.3	12.49%	8.19%	4.30%
1991.4	12.42%	7.85%	4.57%
1992.1	12.38%	7.81%	4.58%
1992.2	11.83%	7.90%	3.93%
1992.3	12.03%	7.45%	4.59%
1992.4	12.14%	7.52%	4.62%
1993.1	11.84%	7.07%	4.76%
1993.2	11.64%	6.86%	4.78%
1993.3	11.15%	6.32%	4.84%
1993.4	11.04%	6.14%	4.91%
1994.1	11.07%	6.58%	4.49%
1994.2	11.13%	7.36%	3.77%
1994.3	12.75%	7.59%	5.16%
1994.4	11.24%	7.96%	3.28%
1995.1	11.96%	7.63%	4.33%
1995.2	11.32%	6.94%	4.37%
1995.3	11.37%	6.72%	4.65%
1995.4	11.58%	6.24%	5.35%
1996.1	11.46%	6.29%	5.17%
1996.2	11.46%	6.92%	4.54%
1996.3	10.70%	6.97%	3.73%
1996.4	11.56%	6.62%	4.94%
1997.1	11.08%	6.82%	4.26%
1997.2	11.62%	6.94%	4.68%
1997.3	12.00%	6.53%	5.47%
1997.4	11.06%	6.15%	4.91%
1998.1	11.31%	5.88%	5.43%
1998.2	12.20%	5.85%	6.35%
1998.3	11.65%	5.48%	6.17%
1998.4	12.30%	5.11%	7.19%
1999.1	10.40%	5.37%	5.03%

BOND YIELD PLUS RISK PREMIUM

	[1]	[2]	[3]
Quarter	Average Authorized Electric ROE	U.S. Govt. 30-year Treasury	Risk Premium
1999.2	10.94%	5.80%	5.14%
1999.3	10.75%	6.04%	4.71%
1999.4	11.10%	6.26%	4.84%
2000.1	11.21%	6.30%	4.92%
2000.2	11.00%	5.98%	5.02%
2000.3	11.68%	5.79%	5.89%
2000.4	12.50%	5.69%	6.81%
2001.1	11.38%	5.45%	5.93%
2001.2	10.88%	5.70%	5.17%
2001.3	10.76%	5.53%	5.23%
2001.4	11.57%	5.30%	6.27%
2002.1	10.05%	5.52%	4.53%
2002.2	11.41%	5.62%	5.79%
2002.3	11.25%	5.09%	6.16%
2002.4	11.57%	4.93%	6.63%
2003.1	11.43%	4.85%	6.57%
2003.2	11.16%	4.60%	6.56%
2003.3	9.88%	5.11%	4.76%
2003.4	11.09%	5.11%	5.98%
2004.1	11.00%	4.88%	6.12%
2004.2	10.64%	5.34%	5.30%
2004.3	10.75%	5.11%	5.64%
2004.4	10.91%	4.93%	5.98%
2005.1	10.56%	4.71%	5.85%
2005.2	10.13%	4.47%	5.65%
2005.3	10.85%	4.42%	6.42%
2005.4	10.59%	4.65%	5.94%
2006.1	10.38%	4.63%	5.75%
2006.2	10.63%	5.14%	5.49%
2006.3	10.06%	5.00%	5.07%
2006.4	10.39%	4.74%	5.64%
2007.1	10.39%	4.80%	5.59%
2007.2	10.27%	4.99%	5.28%
2007.3	10.02%	4.95%	5.07%
2007.4	10.43%	4.61%	5.81%
2008.1	10.15%	4.41%	5.74%
2008.2	10.54%	4.57%	5.96%
2008.3	10.38%	4.45%	5.93%
2008.4	10.39%	3.64%	6.74%
2009.1	10.45%	3.44%	7.01%
2009.2	10.58%	4.17%	6.41%
2009.3	10.41%	4.32%	6.09%
2009.4	10.54%	4.34%	6.20%
2010.1	10.45%	4.62%	5.82%
2010.2	10.08%	4.37%	5.71%
2010.3	10.29%	3.86%	6.43%
2010.4	10.34%	4.17%	6.17%
2011.1	9.96%	4.56%	5.40%
2011.2	10.12%	4.34%	5.78%
2011.3	10.36%	3.70%	6.66%
2011.4	10.34%	3.04%	7.31%
2012.1	10.30%	3.14%	7.17%
2012.2	9.92%	2.94%	6.98%
2012.3	9.78%	2.74%	7.04%
2012.4	10.07%	2.86%	7.21%
2013.1	9.77%	3.13%	6.64%
2013.2	9.84%	3.14%	6.70%
2013.3	9.83%	3.71%	6.12%
2013.4	9.82%	3.79%	6.04%
2014.1	9.57%	3.69%	5.88%
2014.2	9.83%	3.44%	6.39%
2014.3	9.79%	3.27%	6.52%
2014.4	9.78%	2.96%	6.81%
2015.1	9.66%	2.55%	7.11%
2015.2	9.50%	2.88%	6.61%
2015.3	9.40%	2.96%	6.44%
2015.4	9.65%	2.96%	6.69%
2016.1	9.70%	2.72%	6.98%
2016.2	9.41%	2.57%	6.84%
2016.3	9.76%	2.28%	7.48%
2016.4	9.55%	2.83%	6.72%
2017.1	9.61%	3.05%	6.57%
2017.2	9.61%	2.90%	6.71%
2017.3	9.73%	2.82%	6.91%
2017.4	9.74%	2.82%	6.92%
2018.1	9.59%	3.02%	6.57%
2018.2	9.57%	3.09%	6.49%

BOND YIELD PLUS RISK PREMIUM

	[1]	[2]	[3]
Quarter	Average Authorized Electric ROE	U.S. Govt. 30-year Treasury	Risk Premium
2018.3	9.66%	3.06%	6.60%
2018.4	9.44%	3.27%	6.17%
2019.1	9.57%	3.01%	6.55%
2019.2	9.58%	2.78%	6.79%
2019.3	9.57%	2.29%	7.28%
2019.4	9.74%	2.26%	7.49%
2020.1	9.45%	1.89%	7.56%
2020.2	9.52%	1.38%	8.14%
2020.3	9.34%	1.37%	7.98%
2020.4	9.32%	1.62%	7.69%
2021.1	9.45%	2.07%	7.38%
2021.2	9.46%	2.26%	7.20%
2021.3	9.37%	1.93%	7.43%
2021.4	9.37%	1.95%	7.42%
2022.1	9.34%	2.25%	7.08%
2022.2	9.35%	3.05%	6.30%
2022.3	9.14%	3.26%	5.88%
2022.4	9.72%	3.89%	5.83%
2023.1	9.71%	3.75%	5.96%
2023.2	9.54%	3.81%	5.73%
2023.3	9.63%	4.23%	5.40%
2023.4	9.68%	4.58%	5.09%
2024.1	9.66%	4.32%	5.34%
2024.2	9.78%	4.58%	5.20%
AVERAGE	11.44%	6.07%	5.38%
MEDIAN	10.97%	5.32%	5.54%



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.913396932
R Square	0.834293955
Adjusted R Square	0.833352443
Standard Error	0.00568233
Observations	178

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.028611874	0.028611874	886.1217833	1.31583E-70
Residual	176	0.005682842	3.22889E-05		
Total	177	0.034294716			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.078977764	0.000948095	83.3015142	2.494E-143	0.077106666	0.080848862	0.077106666	0.080848862
U.S. Govt. 30-year Treasury	-0.415693787	0.013964546	-29.76779776	1.31583E-70	-0.443253299	-0.388134275	-0.443253299	-0.388134275

	U.S. Govt. 30-year Treasury	Risk Premium	ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	4.50%	6.03%	10.53%
Blue Chip Near-Term Projected Forecast (Q4 2024 - Q4 2025) [5]	4.38%	6.08%	10.46%
Blue Chip Long-Term Projected Forecast (2026-2030) [6]	4.30%	6.11%	10.41%
AVERAGE			10.47%

Notes:
[1] Regulatory Research Associates, rate cases through June 30, 2024
[2] S&P Capital IQ Pro, quarterly bond yields are the average of each trading day in the quarter
[3] Equals Column [1] Column [2]
[4] S&P Capital IQ Pro, 30-day average as of June 30, 2024
[5] Blue Chip Financial Forecasts, Vol. 43, No. 7, July 1, 2024, at 2
[6] Blue Chip Financial Forecasts, Vol. 43, No. 6, May 31, 2024, at 14
[7] See notes [4], [5] & [6]
[8] Equals 0.0790 – (-0.4157 x Column [7])
[9] Equals Column [7] – Column [8]

Mr. Filarowicz Constant Growth DCF
As Filed

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]				[9]
		Dividend Next Four Quarters				Projected Annual	Avg. Stock Price	Dividend	Projected EPS Growth Rates As of May 10, 2024 (*except Evergy*)				Cost of
Company	Ticker	Next	2nd	3rd	4th	Dividend	as of 6/3/24	Yield	Value Line	Zacks	Yahoo! Finance	Average	Equity
ALLETE, Inc.	ALE	$0.7050	$0.7050	$0.7050	$0.7547	$2.87	$60.65	4.73%	6.00%	NA	8.10%	7.05%	11.78%
Alliant Energy Corporation	LNT	$0.4800	$0.4800	$0.4800	$0.5102	$1.95	$49.84	3.91%	6.50%	6.10%	6.30%	6.30%	10.21%
Ameren Corporation	AEE	$0.6673	$0.6673	$0.6673	$0.6673	$2.67	$73.14	3.65%	6.50%	6.48%	4.80%	5.93%	9.58%
American Electric Power Company Inc.	AEP	$0.8800	$0.8800	$0.8800	$0.9342	$3.57	$86.56	4.13%	6.50%	5.80%	6.19%	6.16%	10.29%
Avista Corporation	AVA	$0.4750	$0.4750	$0.4750	$0.5040	$1.93	$35.57	5.42%	6.00%	NA	6.20%	6.10%	11.52%
Black Hills Corporation	BKH	$0.6500	$0.6500	$0.6500	$0.6728	$2.62	$54.18	4.84%	3.50%	NA	NA	3.50%	8.34%
Consolidated Edison, Inc.	ED	$0.8300	$0.8300	$0.8300	$0.8690	$3.36	$92.21	3.64%	6.00%	2.00%	6.09%	4.70%	8.34%
Duke Energy Corporation	DUK	$1.0250	$1.0870	$1.0870	$1.0870	$4.29	$98.73	4.34%	5.00%	6.28%	6.86%	6.05%	10.39%
Evergy, Inc.	EVRG	$0.6425	$0.6425	$0.6425	$0.6746	$2.60	$52.69	4.94%	7.50%	5.00%	2.50%	5.00%	9.94%
Eversource Energy	ES	$0.7040	$0.7040	$0.7040	$0.7040	$2.82	$58.86	4.78%	5.50%	4.16%	3.25%	4.30%	9.09%
Fortis Inc.	FTS	$0.5900	$0.5900	$0.6154	$0.6154	$2.41	$39.30	6.13%	5.00%	6.00%	1.89%	4.30%	10.43%
IDACORP, Inc.	IDA	$0.8300	$0.8300	$0.8690	$0.8690	$3.40	$93.63	3.63%	5.00%	NA	4.40%	4.70%	8.33%
NextEra Energy, Inc.	NEE	$0.5054	$0.5054	$0.5054	$0.5054	$2.02	$69.27	2.92%	8.50%	7.99%	7.84%	8.11%	11.03%
NorthWestern Energy Group, Inc.	NWE	$0.6500	$0.6500	$0.6500	$0.6776	$2.63	$50.67	5.19%	4.00%	NA	4.50%	4.25%	9.44%
Pinnacle West Capital Corporation	PNW	$0.8800	$0.8800	$0.9357	$0.9357	$3.63	$74.87	4.85%	4.50%	7.55%	6.95%	6.33%	11.18%
Portland General Electric Company	POR	$0.5035	$0.5035	$0.5035	$0.5035	$2.01	$42.89	4.70%	6.00%	NA	NA	6.00%	10.70%
Public Service Enterprise Group Inc	PEG	$0.5994	$0.5994	$0.5994	$0.5994	$2.40	$70.17	3.42%	4.00%	6.24%	5.25%	5.16%	8.58%
Sempra Energy	SRE	$0.6200	$0.6200	$0.6200	$0.6591	$2.52	$73.23	3.44%	7.00%	6.00%	5.90%	6.30%	9.74%
WEC Energy Group, Inc.	WEC	$0.8350	$0.8350	$0.8350	$0.8902	$3.40	$81.12	4.19%	6.00%	7.17%	6.68%	6.62%	10.80%
												Average:	**9.98%**

[1] Attachment MF-4; Value Line
[2] Attachment MF-4; Value Line
[3] Attachment MF-4; Value Line
[4] Attachment MF-4; calculated by Mr. Filarowicz
[5] Sum of dividend next four quarters
[6] Attachment MF-3
[7] Equals [2] / [3]
[8] Attachment MF-2
[9] Equals [7] – Average of [8]

Mr. Filarowicz Constant Growth DCF
As Corrected

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]				[9]
		Dividend Next Four Quarters				Projected Annual	Avg. Stock Price	Dividend	Projected EPS Growth Rates Current As of June 1, 2024				Cost of
Company	Ticker	Next	2nd	3rd	4th	Dividend	as of 6/1/24	Yield	Value Line	Zacks	Yahoo! Finance	Average	Equity
ALLETE, Inc.	ALE	$0.7050	$0.7050	$0.7050	$0.7547	$2.87	$60.08	4.78%	6.00%	n/a	8.10%	7.05%	11.83%
Alliant Energy Corporation	LNT	$0.4800	$0.4800	$0.4800	$0.5102	$1.95	$49.69	3.92%	6.50%	6.10%	6.30%	6.30%	10.22%
Ameren Corporation	AEE	$0.6673	$0.6673	$0.6673	$0.6673	$2.67	$73.20	3.65%	6.50%	6.20%	4.80%	5.83%	9.48%
American Electric Power Company Inc.	AEP	$0.8800	$0.8800	$0.8800	$0.9342	$3.57	$85.96	4.16%	6.50%	6.10%	6.36%	6.32%	10.48%
Avista Corporation	AVA	$0.4750	$0.4750	$0.4750	$0.5040	$1.93	$35.40	5.45%	6.00%	n/a	6.20%	6.10%	11.55%
Black Hills Corporation	BKH	$0.6500	$0.6500	$0.6500	$0.6728	$2.62	$53.99	4.86%	3.50%	n/a	0.70%	2.10%	6.96%
Consolidated Edison, Inc.	ED	$0.8300	$0.8300	$0.8300	$0.8690	$3.36	$92.08	3.65%	6.00%	7.40%	6.09%	6.50%	10.14%
Duke Energy Corporation	DUK	$1.0250	$1.0870	$1.0870	$1.0870	$4.29	$97.88	4.38%	5.00%	6.10%	6.66%	5.92%	10.30%
Evergy, Inc.	EVRG	$0.6425	$0.6425	$0.6425	$0.6746	$2.60	$52.51	4.96%	7.50%	5.00%	6.00%	6.17%	11.12%
Eversource Energy	ES	$0.7040	$0.7040	$0.7040	$0.7040	$2.82	$58.92	4.78%	6.00%	5.40%	4.20%	5.20%	9.98%
Fortis Inc.	FTS	n/a	n/a	n/a	n/a	n/a	n/a	na	n/a	n/a	n/a	n/a	n/a
IDACORP, Inc.	IDA	$0.8300	$0.8300	$0.8690	$0.8690	$3.40	$93.40	3.64%	5.00%	n/a	4.40%	4.70%	8.34%
NextEra Energy, Inc.	NEE	$0.5054	$0.5054	$0.5054	$0.5054	$2.02	$67.93	2.98%	8.00%	8.00%	8.01%	8.00%	10.98%
NorthWestern Energy Group, Inc.	NWE	$0.6500	$0.6500	$0.6500	$0.6776	$2.63	$50.44	5.21%	4.00%	n/a	4.50%	4.25%	9.46%
Pinnacle West Capital Corporation	PNW	$0.8800	$0.8800	$0.9357	$0.9357	$3.63	$74.32	4.89%	4.50%	8.20%	7.20%	6.63%	11.52%
Portland General Electric Company	POR	$0.5035	$0.5035	$0.5035	$0.5035	$2.01	$42.75	4.71%	6.00%	n/a	12.50%	9.25%	13.96%
Public Service Enterprise Group Inc	PEG	$0.5994	$0.5994	$0.5994	$0.5994	$2.40	$69.13	3.47%	5.00%	5.40%	4.85%	5.08%	8.55%
Sempra Energy	SRE	$0.6200	$0.6200	$0.6200	$0.6591	$2.52	$72.60	3.47%	7.00%	6.00%	5.90%	6.30%	9.77%
WEC Energy Group, Inc.	WEC	$0.8350	$0.8350	$0.8350	$0.8902	$3.40	$81.21	4.18%	6.00%	7.90%	7.21%	7.04%	11.22%
Xcel Energy	XEL	$0.5475	$0.5475	$0.5475	$0.5475	$2.19	$54.13	4.05%	7.00%	6.40%	6.73%	6.71%	10.76%
												Average:	**10.35%**

[1] Attachment MF-4; Value Line
[2] Attachment MF-4; Value Line
[3] Attachment MF-4; Value Line
[4] Attachment MF-4; Value Line - equals [1] x (1 average [8])
[5] Sum of dividend next four quarters
[6] Attachment MF-3
[7] Equals [2] / [3]
[8] Data as published by Value Line, Zacks, and Yahoo! Finance as of end of June 1, 2024 consistent with Mr. Filarowicz's stock price calculation
[9] Equals [7] Average of [8]