Application No.: A.24-09-XXX
Exhibit No.: Liberty-07
Witnesses: T. Bourassa

(U 933-E)

2025 General Rate Case

Before the California Public Utilities Commission

Chapter 7: Cost of Capital

Tahoe Vista, California

September 20, 2024

I. INTRODUCTION AND SUMMARY

Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is Thomas J. Bourassa. My business address is 139 W. Wood Drive, Phoenix, Arizona 85029. I am an independent certified public accountant licensed in the State of Arizona and my principal business activity is providing consulting services to regulated utilities in the areas of cost of service, rate design, and cost of capital. I am testifying on behalf of Liberty Utilities (CalPeco Electric) LLC ("Liberty" or the "Company")

Q. PLEASE DESCRIBE YOUR EDUCATION BACKGROUND.

A. I hold a Bachelor degree from the Northern Arizona University with a major in Chemistry and a minor in Accounting. I also hold an MBA from the University of Phoenix with an emphasis in Finance.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE UTILITY REGULATORY COMMISSIONS?

A. Yes. I have testified in several states including Arizona, Alaska, Arkansas, Montana, California, and Texas. I have testified previously before the California Public Utility Commission ("CPUC" or "Commission") on cost of capital in Application No. A.09-05-0002 (Valencia Electric Company), Liberty Utilities (Park Water) Corp. in Application No. A.18.05.001, *et. al.,* Liberty Utilities (Park Water and Apple Valley) Corp. in Application No. A.23.05.004, *et. al.*, and Liberty Utilities (CalPeco Electric, LLC) Corp. in Application No. A. 18-12-001. Exhibit TJB-1 provides details of my participation in regulatory proceedings.

Q. WHAT IS THE PURPOSE OF THIS PORTION OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is to provide a recommended minimum return on common equity ("ROE") for Liberty's electric distribution assets regulated by the CPUC. My analysis is based upon information available in early May 2024.

Q. PLEASE BREIFLY DESCRIBE THE EXHIBITS ACCOMPANYING YOUR

TESTIMONY.

A. I have attached exhibit TJB-1 through TJB-6. Exhibit TJB-1 contains the details of my education background and regulatory experience. Exhibit TJB-2 contains the *Blue Chip Financial Forecasts* (Vol. 42, No. 12, December 1, 2023) – Long-Range Survey and the recent *Blue Chip Financial Forecasts* (Vol. 43, No. 5, May 1, 2024). A copy of the most recent *Value Line* report on the electric industry along with each electric utility in my proxy group is attached as Exhibit TJB-3. Exhibit TJB-4 contains my cost of capital analysis (Tables 1 through 11). The cost of capital tables in Exhibit TJB-4 are described in further detail in my testimony. Exhibit TJB-5 contains my risk study I prepared for Liberty. Exhibit TJB-6 contains my size study for the electric proxy group and Liberty.

Q. PLEASE DESCRIBE HOW YOUR TESTIMONY IS ORGANIZED.

A. In this Section I, a summary of my analysis and my approach is presented. In Section II, I discuss the meaning of just and reasonable rates. In Section III, I provide an overview of the risk and expected return on investment. In Section IV, I discuss the sample of twenty-one publicly traded electric utilities in my sample group and provide a comparison to Liberty. I then discuss recent developments in the electric utility industry and their impact on investments. In Section V, I provide an overview of each of the methods (Discounted Cash Flow and Risk Premium) that I employ in my analysis. In Section VI, I discuss the additional business risks faced by Liberty, my comparative risk study, and my recommended risk premium for Liberty. Finally, in Section VII, I summarize my testimony and present a summary of the equity costs of the proxy group and Liberty.

Q. PLEASE SUMMARIZE YOUR FINDINGS CONCERNING LIBERTY'S COST OF COMMON EQUITY.

A. I have determined that the cost of equity for the publicly traded electric utilities falls in the range of 9.8 percent to 11.3 percent with the midpoint of the range at 10.6 percent. After considering differences in financial risk and business risk between Liberty and the publicly traded electric utilities, I am recommending the adoption of an ROE of 11.0 percent for

Liberty.

My recommendation is based on consideration of cost of equity estimates using the Discounted Cash Flow ("DCF") and three Risk Premium ("RP") approaches, including the Capital Asset Pricing Model ("CAPM"). All three are market-based methodologies and are designed to estimate the return required by investors on the common equity capital committed to Liberty Utilities. I have applied the aforementioned methodologies to a sample group of publicly traded electric utilities. Further, my analysis considers (i) my review of the economic conditions expected to prevail during the period in which new rates will be in effect, (ii) my judgments about the risks associated with relatively small utilities like Liberty that are not captured by the market data of publicly-traded electric utilities, (iii) the financial risk associated with the level of debt in Liberty's capital structure, and (iv) additional specific business and operational risks faced by Liberty.

In reaching my recommendation, I have applied various cost of capital methodologies to a proxy group of electric utilities consisting of *Value Line* Western, Central and Eastern electric utilities. The results of these methodologies were adjusted upward by 40 basis points to account for Liberty's higher than average business risk compared to the proxy group. My recommended ROE is based upon the Commission adoption of a 52.5 percent common equity ratio for ratemaking purposes.

Q. WHAT IS THE RECOMMENDED CAPITAL STRUCTURE FOR RATE MAKING PURPOSES?

A. Liberty is recommending a capital structure consisting of 47.5 percent debt and 52.5 percent equity for setting base rates in the instant case.

Q. WHY A 47.5 PERCENT DEBT AND 52.5 PERCENT EQUITY CAPITAL STRUCTURE?

A. The most recent CPUC cost of capital decision for Liberty (D.23-04-043) provided for a 47.5 percent debt and 52.5 percent equity capital structure. The proposed capital structure is the same as the previously approved capital structure.

Q. WHAT IS THE COMPANY'S PROPOSED WEIGHTED COST OF DEBT?

A. 5.87 percent. This is based upon Liberty's estimated costs of long-term debt over the rate case cycle. See Ms. Rao's testimony in Chapter 10 for further details.

Q. WHAT IS YOUR RECOMMENDATION FOR THE WEIGHTED AVERAGE COST OF CAPITAL?

A. Based upon Liberty's proposed capital structure of 47.5 percent debt and 52.5 percent equity, a cost of debt of 5.87 percent, and a cost of equity of 11.00 percent, the WACC is 8.57 percent (rounded) as shown in Figure 1.

Figure 1

	Ratio	Rate	Weighted Cost
Debt	47.5%	5.87%	2.79%
Equity	52.5%	11.00%	5.78%
Weighted Average			8.57%

Q. THANK YOU. WHY DID YOU USE MORE THAN ONE APPROACH FOR ESTIMATING THE COST OF EQUITY?

A. Because no single method provides the necessary level of precision for determining a fair rate of return. As Dr. Morin states:

> Each methodology requires the exercise of considerable judgment on the reasonableness of the assumptions underlying the methodology and on the reasonableness of the proxies used to validate a theory. The inability of the DCF model to account for changes in relative market valuation, discussed below, is a vivid example of the potential shortcomings of the DCF model when applied to a given company. Similarly, the inability of the CAPM to account for variables that affect security returns other than beta tarnishes its use.
>
> No one individual method provides the necessary level of precision for determining a fair return, but each method provides useful evidence to facilitate the exercise of an informed judgment. Reliance on any single method or preset formula is inappropriate when dealing with investor expectations because of possible measurement difficulties and vagaries in individual companies' market data

> When measuring equity costs, which essentially deals with the measurement of investor expectations, no single methodology provides a foolproof panacea. Each methodology requires the exercise of considerable judgment on the reasonableness of the assumptions underlying the methodology and on the reasonableness of the proxies used to validate the theory. It follows that more than one methodology should be employed in arriving at a judgment on the cost of equity and that these methodologies should be applied across a series of comparable risk companies.[1]

Q. PLEASE SUMMARIZE THE APPROACH YOU USED TO ESTIMATE THE COST OF EQUITY FOR THE COMPANY.

A. The cost of equity for Liberty cannot be estimated directly because the Company's equity is not in the form of a publicly traded security so there is no market data for Liberty. Consequently, I have assessed the market-based common equity cost rates of companies of similar, but not necessarily identical risk for insight into a recommended common equity cost rate applicable to Liberty. The DCF, Risk Premium, and CAPM methodologies use data from a sample of publicly traded electric utilities, or proxy group, selected from the *Value Line Investment Survey* serve as starting point in my analysis. Analysis of a proxy group serves as a starting point because no proxy group can be selected to be identical in risk to Liberty. Therefore, the proxy group's results must be adjusted to reflect the unique relative financial and/or business risks of Liberty, as I will discuss in detail.

There are 21 electric utilities in my electric utility proxy group are included *Value Line's* Western, Central and Eastern electric utilities. The electric utilities in my proxy group are listed in Table 2.

II. THE MEANING OF "JUST AND REASONABLE" RATE OF RETURN.

Q. HAVE THE COURTS SET FORTH ANY CRITERIA THAT GOVERN THE RATE OF RETURN THAT A UTILITY'S RATES SHOULD PRODUCE?

A. Yes. In 1923, the U.S. Supreme Court set forth the following criteria for determining

[1] Roger A. Morin. *New Regulatory Finance*, Public Utility Reports, Inc., 2006. 428-429. ("Morin").

whether a rate of return is reasonable in *Bluefield Electric Works and Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679, 692-93 (1923):

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties … The return should be reasonably sufficient to assure confidence in the financial soundness of the utility, and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally.

Then, in *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944), the U.S. Supreme Court stated the following regarding the return to owners of an entity:

> [T]he return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. 320 U.S. at 603.

In summary, under *Hope* and *Bluefield*:

(1) The rate of return should be similar to the return in businesses with similar or comparable risks;

(2) The return should be sufficient to ensure the confidence in the financial integrity of the utility; and

(3) The return should be sufficient to maintain and support the utility's credit.

From the *Hope* and *Bluefield* decisions, two standards emerge: a Capital Attraction standard and a Comparable Earnings standard. The Capital Attraction standard focuses on investor's required returns, which are derived from market-based methods such as the DCF and RP.[2] The Comparable Earnings standard focuses on earned returns on book equity based on an interpretation of the *Hope* decision that returns are defined as book rates of

[2] Morin p. 21.

return on equity.[3]

Q. HAVE THESE CRITERIA BEEN APPLIED IN REGULATORY PROCEEDINGS?

A. Yes, but the application of the "reasonableness" criteria laid down by the Supreme Court has resulted in controversy. The typical method of computing the overall cost of capital is quite straightforward; it is the composite, weighted cost of the various classes of capital (debt, preferred stock, and common equity) used by the utility. Calculating the proportion that each class of capital bears to total capital does the weighting. However, there is no consensus regarding the best method of estimating the cost of equity capital. The increasing regulatory use of market-based finance models in equity return determinations has not, at least to date, led to a universally accepted means of estimating the ROE. In addition, the market-based results are too often applied to a book-value investment base, which, as I will discuss later in my testimony, understates the return expected by investors who invest in actual markets based on market values.

With respect to the Capital Attraction standard, the cost of capital is based on the concept of opportunity cost, i.e., the prospective return to investors must be comparable to investments of similar risk. If a utility's return is less than the returns on investments with similar risk, investors can and will invest elsewhere. As explained by Dr. Roger Morin in his book, *New Regulatory Finance*:

> The concept of cost of capital is firmly anchored in the opportunity cost notion of economics. The cost of a specific source of capital is basically determined by the riskiness of that investment in light of alternative opportunities and equals investor's current opportunity cost of investing in the securities of that utility. A rational investor is maximizing the performance of his or her portfolio only if returns expected on investor investments of comparable risk are the same. If not, the investor will switch out of those investments yielding low returns at a given risk level in favor of those investments offering higher returns for the same degree of risk. This implies that a utility will be unable to attract capital unless it

[3] *Id*.

> can offer returns to capital suppliers comparable to those achieved on alternate competing investments of similar risk.[4]

The *Bluefield* decision suggests that opportunity cost is an appropriate measure of the actual cost of common equity for a utility. This necessarily involves the direct observation of returns on equity actually earned by firms with comparable risk to ensure that the authorized rate of return is equivalent to the returns those firms are earning. This concept is the basis of the Comparable Earnings standard.

III. OVERVIEW OF THE RELATIONSHIP BETWEEN RISK AND THE EXPECTED RETURN ON AN INVESTMENT

Q. HOW IS THE COST OF EQUITY TYPICALLY ANALYZED FROM A CAPITAL ATTRACTION OR MARKET-BASED PERSPECTIVE?

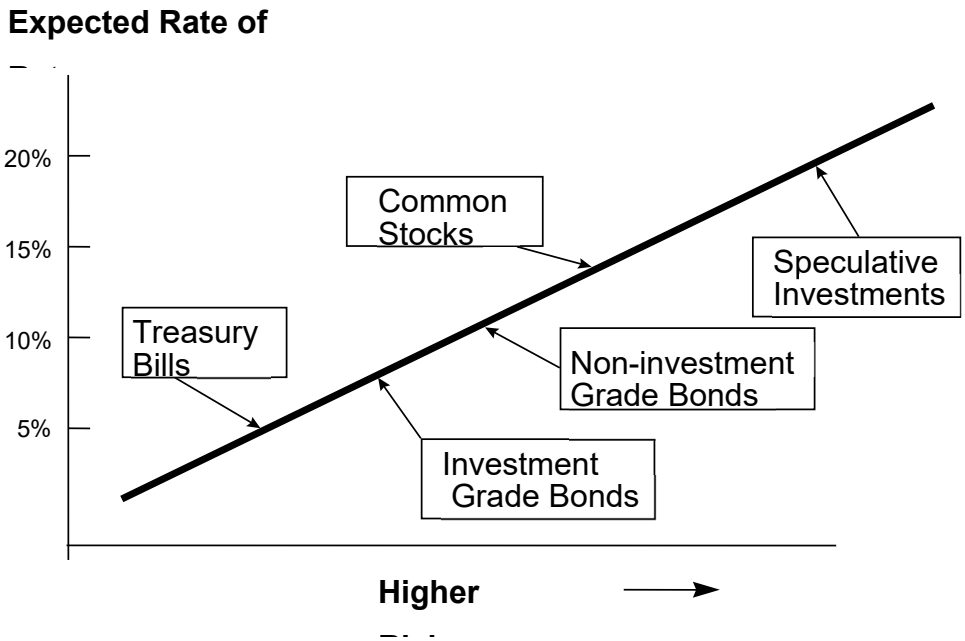
A. The cost of equity is the rate of return that equity investors expect to receive on their investment. Investors can choose from numerous investment options, not simply publicly traded stocks. Investments have varying degrees of risk, ranging from relatively low risk assets such as Treasury securities to somewhat higher risk corporate bonds to even higher risk common stocks. As the level of risk increases, investors require higher returns on their investment. Finance models used to estimate the cost of equity often rely on this basic concept.

Q. CAN YOU ILLUSTRATE THE CAPITAL MARKET RISK-RETURN CONCEPT?

A. Yes. The following graph depicts the risk-return relationship that has become widely known as the Capital Market Line ("CML"). The CML illustrates in a general way the risk-return relationship.

[4] Morin pp. 21-22.

The Capital Market Line (CML)



The CML can be viewed as a continuum of the available investment opportunities for investors. Investment risk increases move upward and to the right along the CML. Again, the return required by investors increases with the risk.

Q. HOW DOES THE RISK-RETURN TRADE OFF CONCEPT WORK IN THE CAPITAL MARKET?

A. The allocation of capital in a free market economy is based upon the relative risk of, and expected return from, an investment. In general, investors rank investment opportunities in the order of their relative risks. Investment alternatives in which the expected return is commensurate with the perceived risk become viable investment options. If all other factors remain equal, the greater the risk, the higher the rate of return investors will require to compensate them for the possibility of loss of either the principal amount invested or the expected annual income from such investment.

Short-term Treasury bills provide a high degree of certainty and in nominal terms (after considering inflation) are considered virtually risk free. Long-term bonds and preferred stocks,

having priority claims to assets and fixed income payments, are relatively low risk, but are not risk free. The market values of long-term bonds often fluctuate when government policies or other factors cause interest rates to change. Common stocks are higher and to the right on the CML continuum, because they have greater investment risk. Common stock risk is impacted by the nature of the underlying business and the financial strength of the issuing corporation and market-wide factors, such as general changes in capital costs.

The capital markets reflect investor expectations and requirements each day through market prices. Prices for stocks and bonds change to reflect investor expectations and the relative attractiveness of one investment relative to others. While the example provided above seems straightforward, returns on common stocks are not directly observable in advance as compared to debt or preferred stocks with fixed payment terms. This means that these returns must be estimated from market data. Estimating the cost of equity capital should be a matter of informed judgment about the relative risk of the company in question and the expected rate of return characteristics of other alternative investments.

Q. HOW IS THE COST OF EQUITY TO BE DETERMINED FOR A PARTICULAR COMPANY?

A. Estimating a company's cost of equity is complex. It requires an analysis of the factors influencing the cost of various types of capital, such as interest on long-term debt, dividends on preferred stock, and earnings on common equity. The data for such an analysis comes from highly competitive capital markets, where the firm raises funds by issuing common stock, selling bonds, and by borrowing (both long-term and short-term) from banks and other financial institutions. In the capital markets, the cost of capital, whether the capital is in the form of debt or equity, is determined by two important factors:

1) The pure or real rate of interest, often called the risk-free rate of interest, and,

2) The uncertainty or risk premium (or the compensation the investor requires, over and above the real or pure rate of interest for subjecting his or her capital to additional risk).

Q. PLEASE DISCUSS THESE FACTORS IN GREATER DETAIL.

A. The pure rate of interest essentially reflects both the time preference for and the productivity of capital. From the standpoint of the individual, it is the rate of interest required to induce the individual to forgo present consumption and offer the funds, thus saved, to others for a specified length of time. Moreover, the pure rate of interest concept is based on the assumption that no uncertainty affects the investment undertaken by the individual, i.e., there is no doubt that the periodic interest payments will be made and the principal returned at the end of the time period. In reality, investments without any risk do not exist. Every commitment of funds involves some degree of uncertainty.

Turning to the second factor affecting the cost of capital, it is generally accepted that the higher the degree of uncertainty, the higher the cost of capital. Investors are regarded as risk averse and require that the rate of return increase as the risks and uncertainty associated with an investment increases.

Q. CAN YOU PROVIDE SOME PERSPECTIVE ON YOUR PREVIOUS DISCUSSION WITH RESPECT TO RETURNS ON COMMON STOCKS?

A. Yes. Conceptually, the required return on common stocks can be quantified by the following equation:

[1] Required Return for Common Stocks = Return on a risk-free asset + Risk Premium

The risk premium investors require for common stocks will be higher than the risk premium they require for investment grade bonds. As I will discuss later in this testimony, this concept is the basis of risk premium methods, such as the CAPM, that are used to estimate the cost of equity.

Q. PLEASE DISCUSS IN MORE DETAIL THE IMPACT OF RISK ON CAPITAL COSTS.

A. With reference to specific utilities, risk is often discussed as consisting of two separate types of risk: business risk and financial risk.

Business risk, the basic risk associated with any business undertaking, is the uncertainty

associated with the enterprise's day-to-day operations. In essence, it is a function of the normal day-to-day business environment, both locally and nationally. Business risks include the condition of the economy and capital markets, the state of labor markets, regional stability, government regulation, technological obsolescence, and other similar factors that may impact demand for the business' products or services and its cost of production. For utilities, business risk also includes the volatility of revenues arising from abnormal weather conditions, degrees of operational leverage, regulation, and regulatory climate. Regulation, for example, can compound the business risk if it is unpredictable in reacting to cost increases, both in terms of the time lag and magnitude for recovery of such increases.

Financial risk, on the other hand, concerns the distribution of business risk to the various capital investors in the utility. Permanent capital is normally divided into three categories: long-term debt, preferred stock, and common equity. Because common equity owners have only a residual claim on earnings after debt and preferred stockholders are paid, financial risk tends to be concentrated in that element of the firm's capital. Thus, a decision by management to raise additional capital by issuing additional debt concentrates even more of the financial risk of the utility on the common equity owners.

Q. WHAT ARE THE DETERMINANTS OF THE RISK FREE RATE IN EQUATION [1]?

A. The risk-free rate can be disaggregated into a "real" rate of interest and an inflation premium (expected future inflation).

Q. WHAT ARE THE DETERMINANTS OF THE REQUIRED RISK PREMIUM FROM EQUATION [1] ABOVE?

A. The risk premium can be disaggregated into five general components: (1) Interest Rate Risk; (2) Business Risk; (3) Regulatory Risk; (4) Financial Risk; and (5) Liquidity Risk.

Interest Rate Risk refers to the variability in return caused by subsequent changes in interest rates and stems from the inverse relationship between interest rates and asset prices. For example, bond prices fall when interest rates rise and vice versa.

Business risk, the basic risk associated with any business undertaking, is the uncertainty

associated with the enterprise's day-to-day operations. In essence, it is a function of the normal day-to-day business environment, both locally and nationally, that increases the probability that expected future income flows accruing to investors might not be realized. Business risks include the condition of the economy and capital markets, the state of labor markets, regional stability, technological obsolescence, degree of competition, sales volatility, government regulation, and other similar factors that may impact demand for the business product and its cost of production. For utilities, business risk also includes the volatility of revenues due to abnormal weather conditions and the degree of operational leverage.

Regulatory risk refers to the quality and consistency of regulation applied to a given regulated utility. Regulatory jurisdictions are evaluated on the basis of three major factors: (1) earnable return on equity, (2) regulatory quality, and (3) regulatory practices. Collectively, these three factors influence a utility's ability to earn its authorized return. The type of test year employed (historical or future), capital structure and rate base issues, and the length of regulatory lag are among the reasons a utility may or may not have a reasonable opportunity to earn its authorized return.

Financial risk concerns the distribution of business risk to the various capital investors in the utility. It relates to the additional variability imparted to income available to common shareholders stemming from the entity's method of financing its capital needs. As I discussed earlier, because common equity owners have only a residual claim on earnings after debt and preferred stockholders are paid, financial risk tends to be concentrated in that element of the firm's capital.

Construction risk is an important component of financial risk. Construction risk is the risk of tying capital up in projects that are not earning returns, or not having sufficient capital to build the assets needed to keep generating returns. If an entity has a large construction budget relative to internally generated cash flows, it will require external financing, which will result in greater financial risk. It is essential that such entities have access to capital funds on reasonable terms and conditions.

Utilities are more susceptible to construction risk. Utilities have a mandated obligation to serve, leaving less flexibility both in the timing and discretion of scheduling capital projects. This is compounded by the limited ability to wait for more favorable market conditions to raise the capital necessary to fund the capital projects, and then the lag between when a plant can be built and when rates can be approved to provide returns on and of that capital. It is imperative that the utility maintain access to needed capital and on reasonable terms and conditions. The return allowed on common equity will have a critical role in determining those terms and conditions.

Although often discussed separately, the two types of risks (business and financial) are interrelated. A study by Scott and Martin found statistically significant results for unregulated firms in twelve industries that "smaller equity ratios (higher leverage use) are generally associated with larger companies."[5] While unregulated enterprises would be expected to seek the optimal balance between debt and equity to achieve the lowest overall cost of capital, the findings of Scott and Martin suggest smaller firms found it prudent to offset higher business risks related to being small by reducing financial risk. This evidence suggests the lowest cost equity ratio for Liberty may be higher than the average equity ratio for the benchmark proxy group.

Finally, Liquidity Risk refers to the ability to readily convert an investment into cash without sustaining a loss. Capital market theory generally assumes that investments are liquid and observations about risk and return are drawn from information about liquid investments. Non-publicly traded or privately-held investments possess little liquidity.

Q. IS INVESTMENT RISK IMPACTED BY COMPANY SIZE?

A. Yes. Investment risk bears a direct relationship to size and increases as company size decreases. Investment liquidity may be a significant factor explaining this relationship. However, the illiquidity of smaller stocks does not capture the size effect completely. Size may be a proxy for one or more true unknown factors correlated with size.[6]

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5 Scott, D.F. and Martin, J.D., "Industry Influence on Financial Structure," *Financial Management*, Spring 1975, pp. 67-71.

6 Rolf W. Banz, "The Relationship between Return and Market Value of Common Stocks", *Journal of Financial Economics*, March 1981, pp. 3-18.

Q. HOW IS THE COST OF EQUITY TYPICALLY ANALYZED FROM A COMPARABLE EARNINGS OR BOOK EQUITY RETURN-BASED PERSPECTIVE?

A. The cost of equity is the rate of return derived from the book returns of comparable firms. To implement the approach, a group of companies of comparable risk to the subject utility is selected and the book equity return is computed for each company. The allowed return for the subject utility is set equal to the average return on book value equity.[7] The rationale for this method rests on the premise that regulation is a surrogate for competition and that the profitability of non-regulated firms is set by the free forces of competition.[8] Typically, the group of companies is made up of non-regulated firms because the book equity returns of regulated firms is not determined by competitive forces but rather the past decisions of regulators.[9]

Q. HAVE YOU CONDUCTED A COMPARABLE EARNINGS ANALYSIS?

A. Yes, I have prepared a Comparable Earnings (CE) analysis but I do not include it in my cost of equity estimation at this time. Instead, I use it as a check on the reasonableness of my recommendations. My CE analysis of comparable risk unregulated firms results in an indicated cost of equity of 17.28 percent. My CE analysis of comparable regulated and non-regulated firms results in an indicated cost of equity of 13.2 percent. By comparison, my recommended cost of equity is 10.50 percent and well below comparable risk firms. I have attached my CE analysis as Exhibit TJB-6.

Q. WHAT STEPS DID YOU TAKE TO IDENTIFY COMPARABLE RISK FIRMS FOR YOUR CE ANALYSIS?

A. I started with the Value 1700 firms and filtered those firms based upon the following criteria:

1) At least 10 years of financial data.
2) Debt percentage between 35% and 65%.
3) Dividend paying.

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7 Morin p. 381.

8 *Id.*

9 Morin p. 383.

4) Value Line Financial Strength of B+ or better.

5) Projected earnings growth of 10% or less.

6) No negative return on equity or negative operating margin for each of the past 10 years.

7) Excluded firms in the Banking, Financial Services, and Real Estate Investment Trust industries.

Applying these criteria (filters) narrowed the number of firms from 1,694 to 178. Next, I computed the coefficient of variance (CV) for the book return on equity (CVROE) and operating margin (CVOM) for each of the 178 firms based upon 10 years of data as well as computed the 10-year average operating margin (OM) for each firm. I then filtered the 178 firms by selecting only those firms that had a CVROE equal to or less than 65% of the average CVROE of the 178 firms and only those firms that had a CVOM equal to or less than 65% of the average CVOM of the 178 firms. Applying these filters to the 178 firms narrowed the number of firms to 51. The 51 firms are comprised of 28 regulated and 27 unregulated firms.

Q. HOW DO THE COMPARBLE RISK FIRMS COMPARE TO THE ELECTRIC PROXY GROUP IN TERMS OF RISK?

A. The three accounting–based risk metrics (CVROE, CVOM, and OM) compare very favorably.[10] The average CVROE, CVOM, and OM for the 51 firms are 0.0997, 0.11917, and 17.7 percent, respectively. For my electric proxy group, the average CVROE, CVOM, and OM are 0.10223, 0.11352, and 18.93 percent, respectively.

While market beta was not used as a risk filter, the average betas of the 51 firms and my electric proxy group are very comparable. The average beta of the 51 firms is 0.89 while the average beta for my electric proxy group of 0.85.

[10] The coefficient of variation of return on equity (CVROE) and coefficient of variation of operating margin (CVOM) and operating margin are accounting-based risk metrics that Duff and Phelps has found to be highly correlated to firm size and market risk premiums. The operating income statistic measures profitability, and the coefficient of variation statistics measure volatility of earnings. See Kroll (Duff & Phelps, LLC.) *2018 Valuation Handbook; U.S. Guide to Cost of Capital*. Hoboken, NJ: John Wiley and Sons, 2018 ("*Kroll*"), Chapter 4, p. 17. found Online at www.kroll.com/en/cost-of-capital*: Kroll* Cost of Capital Navigator platform ("*Kroll Cost of Capital Navigator*").

Q. WHAT ABOUT JUST THE UNREGULATED FIRMS?

A. These metrics also compare favorably. The average CVROE, CVOM, and OM for the 23 unregulated firms are 0.11786, 0.11635, and 14.62 percent, respectively. Again, for my electric proxy group, the average CVROE, CVOM, and OM are 0.10223, 0.11352, and 18.93 percent, respectively.

The average betas of the 23 unregulated firms and my electric proxy group are also comparable. The average beta of the 28 unregulated firms is 0.93 while the average beta for the regulated firms is 0.86.

IV. THE PUBLICLY TRADED UTILITIES THAT COMPRISE THE SAMPLE GROUP USED TO ESTIMATE THE COST OF EQUITY

Q. WHICH COMPANIES COMPRISE YOUR ELECTRIC PROXY GROUP?

A. There are 21 electric distribution utilities in my sample. For the methods employed in my analysis, I used data on these sample entities from a sample of publicly traded electric utilities, or proxy group, selected from the *Value Line Investment Survey* as a starting point.

The 21 electric distribution companies comprising the proxy group were selected by meeting the following criteria: (1) they are followed by the *Value Line Investment Survey*; (2) they have at least ten years of historical financial and market information; (3) they have a *Value Line* adjusted beta; (4) they have not cut or omitted their common dividends during the five years ending 2023 or through time of the preparation of this testimony; (5) they have operating revenues primarily from regulated operations in the U.S.; and (6) at the time of the preparation of this testimony, they had not publicly announced that they were involved in any major merger or acquisition activity. A copy of the most recent *Value Line* report on the electric industry along with each electric utility in my proxy group is attached as Exhibit TJB-3.

Q. BUT THE ELECTRIC UTILITIES IN YOUR SAMPLE ARE NOT DIRECTLY COMPARABLE TO LIBERTY?

A. That is correct. They publicly traded and are much larger (e.g. revenues, plant-in-service, number of connections) and in many case more diversified (e.g. provides both gas and electric service).

However, they are utilities for which market data is available. All of them primarily provide electric distribution and their primary source of revenues is from regulated services. They are also commonly used in regulatory proceedings where sample companies are selected to measure the cost of equity. Therefore, they provide a useful *starting point* for developing the cost of equity for Liberty while recognizing that the proxies are not perfectly comparable.

Q. BRIEFLY, WHY IS A PROXY GROUP NECESSARY FOR COMPARISON IN A COST OF CAPITAL ANALYSIS?

A. First, a fair rate of return for a specific utility is the return required by investors to hold assets with corresponding levels of risk. Market data for a sample of comparable companies provides insight into the investors' required return, and such data comports with the guidance from the U.S. Supreme Court's decisions in *Bluefield* and *Hope*, which I discussed earlier. The comparable earnings standard set forth in the *Hope* and *Bluefield* decisions requires that the rate of return afforded to utilities be similar to the return for businesses with similar or comparable risks. It follows that a proxy group of companies with comparable risk is the starting point in a cost of capital analysis.

Second, a primary objective of rate regulation is to determine an authorized ROE that is both fair to customers and provides reasonable returns for the subject utility. The best estimate of that ROE is the cost of equity for Liberty. The cost of equity is a cost of service fairly recovered from customers through rates. For investors in Liberty, the cost of equity is commensurate with returns an investor in these utilities would expect to earn from investments of comparable risk. To estimate the cost of equity requires market data that reveal investor-required returns. Since Liberty is not publicly traded, there is no market information to determine the cost of equity. This necessitates the selection and use of a proxy group.

Q. PLEASE PROVIDE A GENERAL DESCRIPTION OF THE ELECTRIC UTILITIES IN YOUR ELECTRIC PROXY GROUP?

A. Yes. Table 2 lists the percentages of regulated revenues, operating revenues, net plant, the number of customers or population served, *Value Line* Financial strength, *Value Line* betas, market

capitalization, and market size category for the eight electric utilities. Comparative data for Liberty (where available) is also shown in Table 2. The electric utilities in the electric proxy group consist primarily of Mid-Cap and Large-Cap companies.[11] The market capitalizations range for about $2.8 billion to nearly $77 billion with an average of approximately $20.5 billion. Operating revenues range from about $715 million to nearly $29 billion with an average of over $9.2 billion. Net plant ranges from $1.97 billion to nearly $112 billion, with an average of over $31 billion.

Q. HOW DOES LIBERTY COMPARE TO THE UTILITES IN YOUR PROXY GROUP?

A. On average, the utilities in the electric proxy group are much larger and, according to the empirical financial data, they are less risky than Liberty. Liberty is much smaller with fewer customers and has far less revenues, far less net plant and a relatively small and limited service territory. At the end of 2023, Liberty had approximately 50,000 electric connections as compared to the average of the electric proxy group of about 3.1 million connections. Liberty's revenues totaled approximately $170 million and net plant-in-service was approximately $550 million compared average revenues of about $9.2 billion and net plant-in-service of about 31 billion for the proxy group. The average revenues of the electric proxy group are over 54 times greater than Liberty, and those entities have on average nearly 57 times the net plant of Liberty.

Q. WHAT OTHER RISK FACTORS DISTINGUISH LIBERTY FROM THE LARGER ELECTRIC UTILITIES IN YOUR PROXY GROUP?

A. First, electric utilities are capital intensive and typically have large construction budgets. Firms with large construction budgets face greater construction risk (a form of financial risk). The size of a utility's capital budget relative to the size of the utility itself often increases construction risk. Large utilities are better able to fund their capital budgets from their earnings, cash flows, and short-term borrowings. For smaller utilities, the ability to fund their capital budgets from earnings, cash flows, and short-term debt is difficult, if not impossible, and must rely on additional outside

[11] Based upon 2023 market data from the Center for Research in Security Prices: Micro-Cap companies are Decile 9-10 with market capitalization less than $555 million; Low-Cap companies are Decile 6-8 with market capitalization over $555 million but less than $3 billion; Mid-Cap companies are Decile 3-5 companies with market capitalization of over $3 billion but less than $14.82 billion; and, Large-Cap companies are Decile 1 -2 companies and have market capitalization of over $14.82 billion.

capital.

Second, smaller companies are simply less able to cope with significant events that affect sales, revenues and earnings. For example, the loss of revenues from a few larger customers or from trends in the reduction of usage by customers through conservation or the makeup of the customer base would have a greater effect on a small company than on a much larger company with a larger customer base.

Third, there are a number of other factors, including the differences in regulatory environments, differences in the type of test year used for rate making, and differences in the available regulatory mechanisms for recovery of costs outside of a rate case. The large electric utilities in my electric proxy group are generally not subject to the adverse impacts of an unfavorable regulatory environment of one jurisdiction.

In summary, there are several factors that impact the ability of a smaller utility to actually earn its authorized return. An inadequate opportunity to earn the revenues in a rate case leads to a greater variability of earnings for entities like Liberty when compared to the proxy group. This volatility means greater risk, and the greater risk requires higher returns to maintain and support the utility's credit.

Q. WHAT QUANTITATIVE MEASURES THAT CAN BE USED TO HELP IDENTIFY DIFFERENCES IN BUSINESS RISK?

A. There are a number of fundamental accounting-based business risk measures that can be used to assess the relative differences between firms. Those include: (1) the co-efficient of variance of ROE; (2) the co-efficient of variance of operating income; (3) the co-efficient of variance of operating margin; and (4) Operating Leverage. The first three reflect the distributions of earnings. These are meaningful when measured against the distribution of earnings of alternative investments, like the electric utilities in my electric proxy group. The fourth business risk measure reflects the impact of sales fluctuations and the impact of fixed operating costs on earnings.

The co-efficient of variance of ROE can be quantified using the following equation:

[2] Co-efficient of Variance of ROE = Standard Deviation of ROE/Mean of ROE

The co-efficient of variance of operating income can be quantified using a relatively simple equation:

[3] Co-efficient of Variance of Operating Income = Standard Deviation of Operating Income/Mean of Operating Income

The co-efficient of variance of operating margin can be quantified using the following equation:

[4] Co-efficient of Variance of Operating Margin = Standard Deviation of Operating Margin/Mean of Operating Margin

And, the Operating Leverage formula is expressed as:

[5] Operating Leverage = Percentage Change in Operating Income/Percentage Change in Sales

Using the business risk measures expressed in equations [2], [3], [4], and [5], the greater the co-efficient of variation or Operating Leverage, the greater the risk to investors of not receiving expected returns.[12] Table A shows the computed co-efficient of variation for ROE, co-efficient of variation for Operating Income, and Operating Margin, as well as Operating Leverage using the five most recent years of historical data for the electric proxy group and Liberty: With respect to co-efficient of variation for ROE, co-efficient of variation for Operating Income, and Operating Margin, Liberty is 1.4 to 2.9 times more risky than the average electric proxy group companies.

[12] Tuller, Lawrence W., *The Small Business Valuation*(Avon, MA: Adams Media Corporation, 1994), p. 89.

Table A

Company	Business Risk Co-efficient of variance of ROE	Business Risk Co-efficient of variance of Operating Income	Business Risk Co-efficient of variance of Operating Margin	Operating Leverage
Electric Proxy Group	0.0985	0.1130	0.1040	5.53
Liberty	0.2761	0.3220	0.1511	3.10
Relative Risk of Liberty relative to Proxy Group	2.80	2.85	1.45	0.56

Q. CAN METRICS LIKE A COMPANY'S CO-EFFICIENT OF VARIATION IN ROE, CO-EFFICIENT OF VARIATION IN OPERATING INCOME, AND OPERATING MARGIN BE USED ALONG WITH MARKET DATA TO DEVELOP COMPANY SPECIFIC RISK PREMIUMS?

A. Yes. *Kroll* publishes comparative risk characteristics using market data that provides a nexus between a market beta and the metrics operating margin, the coefficient of variation in operating margin, and the coefficient of variation in return on equity.[13] This information can be used to develop implied betas for Liberty for use in the CAPM. By comparing the results of the CAPM for the electric proxy group with the CAPM for Liberty using the implied betas, informed risk premiums can be developed. As one would expect, the implied beta for Liberty is higher than the

[13] Kroll. *2022 Valuation Handbook; Guide to Cost of Capital*. Hoboken, NJ: John Wiley and Sons, 2020 ("*Kroll*") found Online at www.costofcapital.kroll.com.com*: Kroll* Cost of Capital Navigator platform ("*Kroll Cost of Capital Navigator*").

beta of the electric proxy group and the empirical financial data suggests a risk premium is appropriate.[14] An indicated risk premium can also be developed for the Company based upon company size and by comparing the results of the proxy group to the Company.[15] A risk premium of 40 basis points and up to 222 basis points over the cost of equity of the electric proxy group is indicated for Liberty. I will discuss the indicated risk premiums and implied betas and small company risk premium in more detail in the Liberty Risk Premium section of this direct testimony.

Q. WHAT ABOUT LIQUIDITY RISK?

A. A rational investor would not regard an investment in Liberty as having the same level of risk as the much larger publicly traded electric utilities in the proxy group of the previously mentioned small size characteristics of Liberty and the fact that an investment in Liberty is relatively illiquid compared to the publicly traded electric utilities. An investor in a publicly traded stock can sell stock in a very short period of time if dissatisfied with the returns. An investor in a privately held stock does not have this ability to sell quickly. Consequently, investors will require a greater risk premium, often called liquidity risk premium. As a consequence of these differences in risk, the results produced by the DCF and RP methodologies, utilizing data for the sample utilities, often understate the appropriate ROE for a small, regulated electric utility such as Liberty.

Q. IS THERE A RELATIONSHIP BETWEEN A UTILITY'S CAPITAL STRUCTURE AND ITS COST OF CAPITAL?

A. Yes. Generally speaking, when an entity engages in debt financing, it exposes itself to greater risk. As debt grows relative to the total capital structure the risk increases in a geometric fashion as compared to the linear percentage increase in the debt ratio itself. This risk is illustrated by considering the effect of leverage on net earnings. For example, as leverage increases the equity ratio falls creating two adverse effects. First, equity earnings decline rapidly and may even disappear. Second, the "cushion" of equity protection for debt falls. A decline in the protection afforded debt holders, or the possibility of a serious decline in debt protection, will act to increase

[14] See Exhibit TJB-5, p. 7.

[15] See Exhibit TJB-6, p. 4.

the cost of debt financing. Therefore, one may conclude that each new financing, whether through debt or equity, impacts the marginal cost of future financing by any alternative method.

For an entity already perceived as being over-leveraged, this additional borrowing would cause the marginal costs of both equity and debt to increase. On the other hand, if the same entity instead successfully employed equity funding, this could actually reduce the real marginal cost of additional borrowing, even if the particular equity issuance occurred at a higher unit cost than an equivalent amount of debt.

Q. HOW DO THE CAPITAL STRUCTURES OF THE SAMPLE ELECTRIC UTILITIES COMPARE TO THE PROPOSED PRO FORMA CAPITAL STRUCTURES FOR LIBERTY?

A. Table 3 shows that the debt and equity capital structure used to develop the cost of capital for Liberty. This structure contains 52.5 percent equity and 47.5 percent debt, compared to the average of the electric utility sample of approximately 45.2 percent equity and 54.8 percent debt. Having less debt in its capital structure implies that the Company has lower financial risk than those in the electric proxy group. However, Liberty's recommended capital structure is well within the range of capital structures found in the electric proxy group. In addition, Liberty is much smaller and I would expect a lower amount of debt is the capital structure to offset business risk. Accordingly, I do not recommend a financial risk adjustment.

V. <u>OVERVIEW OF THE DCF AND RISK PREMIUM METHODS</u>

Q. PLEASE EXPLAIN THE GENERAL APPROACHES TO ESTIMATING THE COST OF CAPITAL.

A. There are two broad approaches:

1) identify comparable-risk sample companies and estimate the cost of capital directly, or

2) find the location on the CML and estimate the relative risk of the entity, which jointly determines the cost of capital.

The DCF method falls into the first approach. It is a direct method, but uses only a subset of the total capital market evidence. The DCF rests on the premise that the fundamental value of an asset (i.e. stock) is its ability to generate future cash flows to the owner of that asset. The DCF is simply the sum of a stock's expected dividend yield and the expected long-term growth rate. Dividend yields are readily available, but long-term growth estimates are not. I will explain the DCF in greater detail later.

The RP methods fall into the second approach. An equity risk premium is established by determining the relationship between the cost of equity and an interest rate over time. The CAPM method falls into the category of RP methods. To implement, it is generally assumed that the past correlation will continue on into the future. The RP generally uses a small subset of the capital market evidence whereas the CAPM uses information on all securities, rather than a small subset. I will explain the RP methods in more detail later. For now, the RP methods reflect a risk-return relationship, often depicted graphically as the CML.

Each of these methods measures investor expectations. In the final analysis, ROE estimates are subjective and should be based on sound, informed judgment and supported by competent evidence. I have applied one version of the DCF and three versions of the RP methods (including the CAPM as one of the RP methods.) I believe these methods provide the foundation for evaluating the fair cost of equity capital for the publicly traded electric utilities in my proxy group. I then add a risk premium to the results of these models for the electric proxy group to account for the differences in risk (business, regulatory, liquidity, size) between the electric proxy group and Liberty.

B. Explanation of the DCF Model and Its Inputs

Q. PLEASE EXPLAIN THE DCF METHOD OF ESTIMATING THE COST OF EQUITY.

A. The DCF model is based on the concept that the current price of a share of stock is equal to the present value of future cash flows from the purchase of the stock. In other words, the DCF model seeks to replicate the market valuation process that sets the price investors are willing to pay for a share of an entity's stock. It rests on the assumption that investors rely on the expected returns

(i.e., cash flow they expect to receive) to set the price of a security. The DCF model in its most general form is:

[6] $P_0 = CF_1/(1+k) + CF_2/(1+k)^2 + \ldots. + CF_n/(1+k)^n$

where k is the cost of equity; n is the number of years; P_0 is the current stock price; and, CF_1, through CF_n are the expected future cash flows expected to be received in periods 1 through n.

Equation [6] can be written to show that the current price (P_0) is also equal to

[7] $P_0 = CF_1/(1+k) + CF_2/(1+k)^2 + \ldots + P_t/(1+k)^t$

where P_t is the price expected to be received at the end of the period t. If the future price (P_t) included a premium (an expected increase in the stock price or capital gain), the price the investor would pay today (in anticipation of receiving that premium) would increase. In other words, by estimating the cash flows from the purchase of a stock in the form of dividends and capital gains, we can calculate the investor's required rate of return, i.e., the rate of return an investor presumptively used in bidding the current price to the stock (P_0) to its current level.

Equation [7] is a Market Price version of the DCF model. As with the general form of the DCF model in equation [6], the current stock price (P_0) is the present value of the expected cash inflows in the Market Price approach. The cash flows are comprised of dividends and the final selling price of the stock. The estimated cost of equity (k) is the rate of return investors expect if they bought the stock at today's price, held the stock and received dividends through the transition period, and then sold it for price in period t (P_t).

Q. CAN YOU PROVIDE AN EXAMPLE TO ILLUSTRATE THE MARKET PRICE VERSION OF THE DCF MODEL?

A. Yes. Assume an investor buys a share of common stock for $40. If the expected dividend during the coming year is $2.00, then the expected dividend yield is 5 percent ($2.00/$40 = 5.0 percent). If the stock price is also expected to increase to $43.00 after one year, this $3.00 expected gain adds an additional 7.5 percent to the expected total rate of return ($3.00/$40 = 7.5 percent). Thus, the investor buying the stock at $40 per share expects a total return of 12.5 percent (5 percent dividend yield plus 7.5 percent price appreciation). The total return of 12.5 percent is the

appropriate measure of the cost of capital because this is the rate of return that caused the investor to commit $40 of his or her capital by purchasing the stock.

Q. PLEASE CONTINUE WITH YOUR DESCRIPTION OF THE DCF MODEL.

A. Under the assumption that future cash flow is expected to grow at a constant rate ("g"), equation [6] can be solved for k and rearranged into the simple form:

[8] $k = CF_1/P_0 + g$

where CF_1/P_0 is the expected dividend yield (also expressed as D_0/P_0) and g is the expected long-term dividend (price) growth rate. The expected dividend yield is computed as the ratio of next period's expected dividend ("D_0") divided by the current stock price ("P_0").

This form of the DCF model is known as the "constant growth" DCF model and recognizes that investors expect to receive a portion of their total return in the form of current dividends and the remainder through future dividends and capital (i.e. price) appreciation. A key assumption of this form of the model is that investors expect that same rate of return (k) every year and that market price grows at the same rate as dividends. As already discussed, this has not been historically true for the electric utility sample, as shown by the data in Table 4.

Q. ARE THERE ANY CONCERNS ABOUT APPLYING THE DCF MODEL TO UTILITY STOCKS?

A. Yes, there are a number of reasons why caution must be used when applying the DCF model to utility stocks. First, a non-publicly traded company does not have a stock market price. Using the stock prices from a proxy group assumes that the stock of Liberty would be similarly priced and has a dividend yield similar to the publicly traded electric companies. Second, the stock price and dividend yield components may be unduly influenced by structural changes in the industry, such as mergers and acquisitions, which influence investor expectations. Third, the DCF model is based on a number of assumptions that may not be realistic given the current capital market environment. The traditional DCF model assumes that the market price per share ("MPPS"), book value per share ("BVPS), earnings per share ("EPS"), and dividends per share ("DPS"), all grow at the same

rate. This has not been historically true for the sample electric utility companies. For example, Table 4 shows the average growth rates over the past 5 years.

Expected equity returns suggested by the market based DCF model may not always line up with recent experience in the markets. As Dr. Morin notes: [16]

> To the extent that increases (decreases) in relative market valuation are anticipated by investors, especially myopic investors with short-term investment horizons, the standard DCF model will understate (overstate) the cost of equity.

Another way of stating this point is that the DCF model does not account for the ebb and flow of investor sentiments over the course of the business cycle. The problem was particularly acute in the mid 1990's and mid 2000's where investors, faced with very low returns on short-term fixed-income securities and an uncertain market outlook, sought higher yields offered by utility stocks in a so-called flight to quality, boosting utility stock price and lowering the dividend yield.[17]

Fourth, the application of the DCF model produces estimates of the cost of equity that are consistent with investor expectations *only* when the market price of a stock and the stock's book value are approximately the same. The DCF model will understate the cost of equity when the market-to-book ratio exceeds 1.0 and, conversely, the model will overstate the cost of equity when the market-to-book ratio is less than 1.0. The reason for this is that the market-derived return produced by the DCF is often applied to book value rate base by regulators.[18]

Fifth, the assumption of a constant growth rate may be unrealistic, and there may be difficulty in finding an adequate proxy for the growth rate. Historical growth rates can be downward biased as a result of the impact of anemic historical growth rates in earnings, mergers and acquisitions, restructuring, unfavorable regulatory decisions, and even abnormal weather patterns. Conversely historical growth rates can be upwardly biased as well, particularly under current market conditions as discussed previously.

Q. IS THE DCF A SUPERIOR METHODOLOGY?

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[16] Morin, p. 433.

[17] Morin, pp. 21-22.

[18] Morin at 434-435.

A. No. Again, I concur with Dr. Morin who states:

> While it is certainly appropriate to use the DCF methodology to estimate the cost of equity, there is no proof that the DCF produces a more accurate estimate of the cost of equity than other methodologies. Sole reliance on the DCF model ignores the capital market evidence and financial theory formalized in the CAPM and other risk premium methods. The DCF model is one of many tools to be employed in conjunction with other methods to estimate the cost of equity. It is not a superior methodology that supplants other financial theory and market evidence. *The broad usage of the DCF methodology in regulatory proceedings in contrast to its virtual disappearance in academic textbooks does not make it superior to other methods. The same is true of the Risk Premium and CAPM methodologies.* (emphasis added)[19]

Q. WHAT DATA HAVE YOU USED TO COMPUTE THE EXPECTED DIVIDEND YIELD (D_1/P_0) IN YOUR DCF MODEL?

A. First, I computed a current dividend yield (D_0/P_0). The time value of money should be taken into account when determining dividend yields. This adjustment is required because the basic model assumes dividends are paid once a year, but investors actually receive dividend payments on a quarterly basis. Prices they pay for the stock (P_0), would reflect the anticipated payment and potential re-investment of quarterly dividends. To approximate the time value of money and the payment of quarterly dividends, I computed expected dividend yield (D_1/P_0) as the current dividend yield (D_0/P_0) times one plus the growth rate (g) divided by 2. I used the spot price for each of the stocks of the electric utilities in the sample group as reported by the *Value Line Investment Analyzer* for May 7, 2024 for P_0. The current dividend (CF_0) is the current indicated dividend as reported by Value Line. In my tables, the current dividend yield is denoted as (D_0/P_0), where D_0 is the current dividend and P_0 is the spot stock price. (D_1/P_0) is used to denote the expected dividend yield in the tables.

Q. WHAT MEASURES OF GROWTH ("g") HAVE YOU USED?

A. My projected estimate of growth is based upon analysts' estimates of EPS growth. For my forecast growth estimate, I have used the growth forecasts from *Value Line*, *Zacks Investment Research*,

[19] Morin at 431.

and *Yahoo Finance.* I report the historical growth and analysts' forecasts of future growth in Table 4.

Q: DID YOU CONSIDER ANY OTHER METHOD OF ESTIMATING EXPECTED GROWTH TO APPLY THE DCF MODEL?

A: Yes. I considered using the so-called "sustainable growth" method. According to this method, future growth is estimated by multiplying the fraction of earnings expected to be retained by the company, 'b', by the expected return on book equity, ROE, as follows:

[9] $g = b \times ROE$

where: g = expected growth rate in earnings/dividends

b = expected retention ratio

ROE = expected return on book equity

Q: DO YOU HAVE ANY RESERVATIONS IN REGARDS TO THE SUSTAINABLE GROWTH METHOD?

A: Yes, for a least two reasons. First, the sustainable method of predicting growth is inherently circular.[20] This is because it relies upon an expected return on book common equity which is then used in a DCF analysis to establish a common equity cost rate related to the market value of common stock. If this common equity cost rate is authorized as the allowed return in a regulatory proceeding, it will become the expected return on book common equity. Second, the empirical finance literature demonstrates that the sustainable growth method of determining growth is not as significantly correlated to measures of value, such as stock prices and price/earnings ratios, as analysts' growth forecasts.[21] Because of these reasons, I chose not to rely on this method.

Q. WHY DID YOU USE FORECASTED GROWTH RATES IN YOUR GROWTH ESTIMATES?

[20] Morin at 306.

[21] Morin at 307.

A. The empirical evidence indicates that analyst estimates of EPS growth are the best measure of growth for use in the DCF for utility stocks.[22] Further, the DCF model requires estimates of growth that investors expect in the future and not past estimates of growth that have already occurred. Logically, in estimating future growth, financial institutions and analysts have taken into account all relevant historical information on an entity, as well as other more recent information.[23] To the extent that past results provide useful indications of future growth prospects, analysts' forecasts would already incorporate that information. In addition, the current price of a stock reflects known historic information on that entity, including its past earnings history. Any further recognition of the past will double count what has already occurred. Therefore, forward-looking growth rates should be used.

Q. DID YOU APPLY A REASONABLENESS TEST TO THE INDIVIDUAL RESULTS THE DCF?

A. Yes. DCF results that are less than the forecast Baa investment grade bond yield plus 100 basis points or 7.0 percent are excluded. An indicated return of 7.0 percent is the minimum plausible expected cost of equity. This reasonableness approach is consistent with methods the Federal Energy Regulatory Commission ("FERC") adopted in the past and consistent with common

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[22] Gordon, David A., Gordon, Myron J. and Gould, Lawrence I., "Choice Among Methods of Estimating Share Yield," *Journal of Portfolio Management*, Spring 1989, pp. 50-55. Gordon, Gordon and Gould found that a consensus of analysts' forecasts of earnings per share growth for the next five years provides a more accurate estimate of growth required in the DCF model than three different historical measures of growth (historical EPS, historical DPS, and historical retention growth). They explain that this result makes sense because analysts would take into account such past growth as indicators of future growth as well as any new information. Other studies confirm the superiority of analysts' estimates such as Vander Weide, James H. and Carleton, Willard T., "Investor Growth Expectations: Analysts vs. History," *Journal of Portfolio Management*, Spring 1988, pp. 78-87; Brown, Lawrence D. and Rozeff, Michael S., "The Superiority of Analyst Forecasts as Measures of Expectations: Evidence from Earnings," *Journal of Finance*, March 1978, pp. 1-16; and Timme, Stephen G. and Eisemann, Peter C., "On the Use of Consensus Forecasts of Growth in the Constant Growth Model: The Case for Electric Utilities," *Journal of Financial Management*, Winter 1989, pp. 23-35. A 2004 study by the Kentucky Public Service Commission Advance Research Center updated the study by Vander Weide and Carleton (1988) and confirmed the superiority of analyst estimates over historical averages.

[23] Gordon, Gordon, and Gould, p. 54.

sense.[24] In my view, the 100 basis points above Baa bonds is conservative given that the 41-year average historical premium computed from annual total returns on the electric proxy group and Baa investment grade bond yields is 450 basis points. Investors will not invest in risky common stocks if they can earn a higher return on less risky investments.

Q. PLEASE SUMMARIZE THE EQUITY COST ESTIMATES YOU MAKE WITH THE DCF APPROACH.

A. In Table 6, my DCF estimate for the cost of equity of the electric proxy group is 9.8 percent. For Liberty my estimate 10.2 percent. See Table 1.

C. Explanation of the RP and Its Inputs

Q. PLEASE EXPLAIN THE RP METHODOLOGY FOR ESTIMATING THE COST OF EQUITY.

A. The RP method is sometimes referred to as the "bond yield plus risk premium method." The general approach is to determine the spread between the return on debt and the return on equity, and then add this spread to the current debt yield to derive an estimate of the cost of equity. To implement the RP, it is assumed that the past relationship will continue into the future. The RP is widely used by analysts and investors.[25]

The RPM formula provides a formal risk-return relationship and is stated as:

[10] $k = K_d +$ bond-equity spread

where k is the expected return on equity and K_d is the cost of debt or debt yield.

Q. PLEASE TURN TO YOUR RISK PREMIUM EQUITY COST ESTIMATES. HOW MANY RP ANALYSES HAVE YOU PERFORMED?

A. I performed two risk premium analyses aside from the CAPM. My first analysis is presented in Table 8. For this risk premium analysis a historical risk premium for the electric utility industry was estimated with an annual time series analysis applied to the utility industry as a whole over

[24] In its 2008 Order for Southern California Edison, 122 FERC ¶61236 at page 25, the FERC lists screens which included exclusion of any company whose low-end ROE fails to exceed the average bond yield by about 100 basis points, or more.

[25] Morin, p. 108.

the 1983-2023 period, using *Standard and Poor's Utility Index* as an industry proxy. The historical risk premium was estimated by computing the actual realized return on equity capital for the S&P Utility Index for each year and then subtracting the long-term Treasury bond return for that year.

As shown on Table 8, the average risk premium over the period was 6.5 percent over long-term Treasury bond yields. I adjusted upward the risk premium estimate by assuming the cost of equity changes by half as much as the difference in Treasury bond rates. Because the long-term Treasury rate of 4.1 percent that is expected in 2025- 2027 is lower than the average historical Treasury rate of 5.5 percent for the period 1983 to 2023, the future risk premium is expected to be higher than the simple average RP based on past data. I computed a future risk premium of 7.2 percent based upon the assumption that equity cost change by 50 percent of the change in interest rates.

My adjustment to the risk premium is consistent with the California PUC orders. For example, in the past, the California PUC has determined that risk premiums vary inversely with interest rates. In Decision 97-12-089, the California PUC found that costs of equity for energy utilities move in the same direction as interest rates but by less. More recently, in Decision 02-11-027, the California PUC confirmed that its practice was to adjust returns on equity for energy utilities by one-half to two-thirds of the change in the benchmark interest rate. These findings are consistent with the findings of Dr. Morin.[26]

Q. HAVE OTHERS FOUND AN INVERSE RELATIONSHIP BETWEEN RISK PREMIUMS AND INTEREST RATES?

A. Yes. Harris and Marston, "Estimating Shareholders Risk Premia Using Analysts' Growth Rates," *Financial Management*, Summer 1992 found an inverse relationship.

Q. WHAT IS THE RESULT OF YOUR FIRST APPROACH?

A. Table 8 shows the indicated cost of equity for the electric proxy group is 11.3 percent. My estimate for Liberty is 11.7 percent. See Table 1.

Q. PLEASE EXPLAIN YOUR SECOND RP APPROACH.

[26] Morin at 128-129.

A. My second RP analysis is an updated and modified version of the risk premium analysis used in a prior California Public Utility Commission rate case. In that case, the Public Advocates Office ("Cal Advocates") presented in San Jose Water Company's GRC (A.06-02-014) in June 2006. In that case, Cal Advocates adopted annual averages of actual returns on average equity for water utilities in its sample as proxies for the costs of equity for the period 1996 to 2005, subtracted contemporaneous Treasury rates from those equity cost proxies to determine annual average risk premiums, then added 5-year and 10-year averages of those risk premiums to forecasts of the respective Treasury rates to determine an equity cost range. Table 9 adopts annual averages of available DCF equity costs for electric utilities in the sample as the annual proxies for the costs of equity. This analysis was based on data for the period 2014 to 2023. See Table 9. Current dividend yields are annual averages of yields for the water utilities sample in the various years as reported by Value Line. Growth rates are averages of EPS growth rates forecasted by Value Line.

Q. WHAT IS THE RESULT OF YOUR SECOND APPROACH?

A. This RP analysis indicates a cost of equity of 10.2 percent for the electric proxy group. See Table 9. For Liberty, the indicated cost of equity is 10.6 percent as shown in Table 1. My analysis assumes that the sample of 21 electric utilities is large enough to provide meaningful estimates.

Q. THANK YOU. SHOULD STUDIES OF HISTORICAL RISK PREMIUMS RELY ON ARITHMETIC AVERAGE RETURNS OR ON GEOMETRIC AVERAGE RETURNS?

A. Whenever relying on historical risk premiums, only arithmetic average returns over long periods are appropriate for forecasting and estimating the cost of capital, and geometric average returns are not. As various finance experts have explained, an arithmetic mean is the correct approach to use in estimating the cost of capital, particularly for a risk premium model.[27] As Dr. Morin states:

> Because valuation is forward-looking, the appropriate average is the one that most accurately approximates the expected future rate

[27] Zvi Bode, Alex Kane, Alan J. Marcus, *Investments* (McGraw-Hill 6th ed., 2005) ("Bode"), pp. 864 – 865; Richard A. Brealey, Stewart C. Myers, Frankin Allen, *Principles of Corporate Finance* (McGraw-Hill 11th ed.) ("Brealey"), pp. 162 – 163.

> of return. ***The best estimate of the expected returns over a future holding period is the arithmetic average. Only arithmetic means are correct for forecasting purposes and for estimating the cost of capital.*** There is no theoretical or empirical justification for the use of geometric rates of return as a measure of the appropriate discount rate in computing the cost of capital or in computing present values.[28] (***emphasis added***)

The consensus among these experts makes sense. Only arithmetic mean return rates and yields are appropriate for cost of capital purposes because ex-post (historical) total returns and equity risk premiums differ in size and direction over time, providing insight into the variance and standard deviation of returns. The geometric mean of ex-post (after the fact) equity risk premiums provides no insight into the potential variance of future returns because the geometric mean relates the change over many periods to a constant rate of change, rather than the year-to-year fluctuations, or variance, which are critical to risk analysis. In short, the conclusion of these financial experts is that, while the geometric mean is useful in comparing what happened in the past, it should not be used to determine estimates of expected future returns or market risk premiums.

Q. LETS TURN TO THE CAPM. PLEASE EXPLAIN THE CAPM METHODOLOGY FOR ESTIMATING THE COST OF EQUITY.

A. Like all RP methods, the CAPM is the sum of a risk-free rate plus a risk premium. Like the RPM, it quantifies the additional return required by investors for bearing incremental risk. The CAPM was developed by William Sharpe and John Lintner in the mid-1960s and is a common topic in college finance textbooks. The CAPM provides a formal risk-return relationship premised on the idea that only market risk matters, as measured by beta. The traditional version of CAPM is represented by the formula:

$$[11] \quad k = R_f + \beta(R_m - R_f)$$

[28] Morin, pp. 116 – 117 (emphasis added).

where k is the expected return, R_f is the risk-free rate (or zero beta asset), R_m is the market return, (R_m-R_f) is the market risk premium, and β is beta.

Q. WHAT IS BETA AND WHAT DOES IT MEASURE?

A. Beta is a measure of the relative risk of a security in relation to the market. In other words, it is a measure of the sensitivity of a security to the market as a whole. This sensitivity is also known as systematic risk. It is estimated by regressing a security's excess returns against a market portfolio's excess returns. The slope of the regression line is the beta.

Beta for the market is 1.0. A security with a beta greater than 1.0 is considered more risky than the market. A security with a beta less than 1.0 is considered less risky than the market.

Q. ARE THERE ANY CONCERNS ABOUT APPLYING THE CAPM MODEL TO UTILITY STOCKS?

A. Yes. I have concerns with using this model in most periods because mechanical application of the model may produce unreasonable results. The traditional CAPM only captures a single measure of systematic risk as measured by beta, but there are other forms of systematic risk priced by the market such as company size. A size premium is necessary because the empirical evidence indicates that beta alone does not measure the risk of smaller companies.[29] Further, there are computational problems surrounding beta since it depends on the return data, the time period used, its duration, the choice of the market index, and whether annual, monthly, or weekly return figures are used. Betas are estimated with error. Based on empirical evidence, high betas will tend to have a positive error (risk is overestimated) and low betas will have a negative error (risk is underestimated).[30]

Q. ARE THERE ALTERNATIVES TO THE TRADITIONAL CAPM?

A. Yes, alternative versions of the CAPM have been developed that provide more robust explanations of returns required by investors. A version of the CAPM called the Empirical CAPM or ECAPM

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[29] *Kroll 2018 Valuation Handbook*, Chapter 2, p. 7.

[30] Fama, Eugene F. and Kenneth R. French, "The Capital Asset Pricing Model: Theory and Evidence," *Journal of Economic Perspectives*, Summer 2004, pp. 25-46.

was developed to recognize that estimations of R_f are higher than the return on long-term Treasuries. Dr. Roger Morin discusses ECAPM at pages 189-191 of his book, *New Regulatory Finance*. The ECPAM is represented as follows:

[12] $k = R_f + .25(R_m-R_f) + .75\beta(R_m-R_f)$

The ECAPM was developed from the empirical findings that show the slope of the CML is flatter and the risk-free rate is at a higher point than predicted by the pure CAPM. The ECAPM has been shown to do a better job at predicting market returns.

Kroll also suggests a version of the CAPM in which a size premium is included.[31] This modified CAPM or MCAPM is represented as follows:

[13] $k = R_f + \beta(R_m-R_f) + RP_s$

where k is the expected return, R_f is the risk-free rate (or zero beta asset), R_m is the market return, (R_m-R_f) is the market risk premium, β is beta, and RP_s is the size premium. Both the ECAPM and MCAPM recognize the pure CAPM is incomplete and does not fully account for the higher returns that are needed on smaller company stocks. In other words, the higher risks associated with smaller firms are not fully accounted for by beta.[32]

Q. IS FIRM SIZE A UNIQUE RISK?

A. No, firm size is a systematic risk factor and is an adjustment to the pure CAPM.[33] Putting aside the empirical financial data, the need for a risk premium for size makes sense. Company size is a significant element of business risk for which investors expect to be compensated through greater returns. As discussed earlier, smaller companies are simply less able to cope with significant events that impact sales, revenues, and earnings. For example, smaller companies face more risk exposure to business cycles and economic conditions, both nationally and locally. Additionally, the loss of revenues from a few larger customers would have a greater effect on a small entity than

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31 *Kroll 2018 Valuation Handbook*, Chapter 2, p. 14.

32 Morningstar, *Ibbotson SBBI 2013 Valuation Yearbook,* pp. 85-88. (*"Morningstar"*)

33 Pratt, Shannon P. and Roger J. Grabowski, *Cost of Capital: Applications and Examples* (John Wiley and Sons, 4th Ed. 2010) p. 56.

on a much larger entity with a larger, more diverse, customer base. Moreover, smaller companies are generally less diverse in their operations and have less financial flexibility.

Q. DID YOU EMPLOY EITHER OF THESE ALTERNATIVE CAPM METHODS (EQUATIONS 12 AND 13) AS PART OF YOUR ANALYSIS?

A. Yes. I employed all three versions of the CAPM to estimate the cost of equity for the electric proxy group, which does somewhat mitigate my concerns about the traditional CAPM.

Q. WHAT IS THE RISK-FREE RATE (R_f)?

A. It is the return on an investment with no risk. The U.S. Treasury rate serves as the basis for the risk-free rate because the yields are directly observable in the market and are backed by the U.S. government. Practically speaking, short-term rates are volatile, fluctuate widely and are subject to more random disturbances than long-term rates. In short, long-term Treasury rates are preferred for these reasons and because long-term rates are more appropriately matched to securities with an indefinite life or long-term investment horizon.

Q. WHAT DO YOU USE AS THE RISK FREE RATE (R_f)?

A. I used the expected U.S. Long-term Treasury rate for 2025-2027 as the basis for the risk free rate. Since the cost of capital is an opportunity cost and is prospective, it necessarily requires the use of a forward-looking bond yield. In recent years, interest rates have dropped to very low levels when compared to interest rates for similar securities in the past. From 1999 to 2007, the annual average yield for long-term Treasury bonds was 5.24 percent, ranging from a low of 4.84 percent in 2007 to a high of 5.94 percent in 2000. In 2008, and during the recent recession, that annual average dropped to 4.24 percent and dropped further in 2012 to 2.9 percent. The average annual rate has declined from 2013 where it was 3.45 percent to 1.56 percent for 2020. Since 2020, long-term bond yields have increased to an average 2023 yield of 4.09 percent. The average yield for the long-term treasury during the first quarter of 2024 was 4.33 percent.[34]

Q. WHY HAVE INTEREST RATES INCREASED OVER THE PAST FEW YEARS.

[34] See www.federalreserve.gov.

A. The increase in long-term Treasury rates has been largely attributed to the market intervention by the Federal Reserve to address inflation which has been well above the Federal Reserve target rate of 2.0 percent since early 2021. While the Federal Reserve doesn't directly control longer term interest rates, it does set monetary policy through the setting of the federal funds rate which is an important benchmark in the financial markets. Over the past year or so, the Federal Reserve has increased the benchmark federal funds rate by 525 basis points to combat inflation (CPI) which stood at an annual rate of 4.7 percent, 8.0 percent, and 4.1 percent for 2021, 2022, and 2023, respectively. Inflation continues to remain high with and annual inflation rate of 3.5 percent for March 2024.[35]

Q. WHEN DOE THE FEDERAL RESERVE EXPECT TO BEGIN CURRING RATES?

A. The Federal Reserve is dealing with persistently higher than expect inflation and is cautious about when it will begin cutting rates. Fed Chair Powell is confident that inflation will come down, but a first interest rate cut is still a ways off.[36] According to the *Blue Chip Financial Forecasts*, 63 percent of its panelists expect that rate cuts will begin in September of this year.[37]

Q. WHY DO YOU USE LONG-TERM U.S. TREASURY YIELDS?

A. The yields on long-term Treasury bonds match more closely with the perpetual nature of common stock investments.[38] In addition, short-term rates are more volatile, fluctuate widely and are subject to more random disturbances than long-term rates. Long-term Treasury rates are more appropriately matched to securities with an indefinite life or long-term investment horizon. For these reasons long-term rates are preferred.

Q. WHAT DO YOU ADOPT AS THE RETURN FOR THE RISK-FREE RATE?

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35 See www.usinflationcalculator.com/inflation/historical-inflation-rates/.

36 See www.kiplinger.com/economic-forecasts/interest-rates.

37 See *Blue Chip Financial Forecast* (Vol. 43, No. 5, May 1, 2024) included in Exhibit TJB-2.

38 Morin, p. 112.

A. I used long-term expected Treasury bond rates as the measure of the risk-free return for use with CAPM cost of equity estimates the *Blue Chip Financial Forecasts*.[39] The appropriate choice for the risk-free rate is the *expected* return for long-term Treasury securities.[40] Thus, when determining an estimate of the risk-free rate, it is appropriate to adopt a return that is no less than the expected return on the long-term Treasury bond rate. Models to determine the cost of capital are prospective in nature, which require expectational inputs, such as forecasted interest rates.[41] The CAPM, ECAPM, and MCAPM estimates are based on expected yields of the long-term Treasury rates for which average 4.1 percent over the 2025-2027 timeframe (from *Blue Chip Financial Forecasts* (Vol. 43, No. 5, May 1, 2024), See Table 7.

Q. WHAT DID YOU USE AS THE PROXY OF THE BETA IN YOUR CAPM MODELS?

A. I used the average beta of the sample electric utility companies. These betas were obtained from *Value Line Investment Analyzer* (weekly data as of May 1, 2024). *Value Line* is the source for estimated betas that I regularly employ. The average *Value Line* beta for my electric proxy group as shown on Table 2 is 0.90.

I should note that because Liberty is not publicly traded, it has no beta. In my expert opinion, I strongly believe Liberty, if it were publicly traded, would have a higher *Value Line* beta than the sample electric utility companies. *Morningstar* reports that when betas (a measure of market risk) are properly estimated, betas are greater for small companies than for larger companies.[42] *Morningstar* also finds that even after accounting for differences in beta risk, small firms require an additional risk premium over and above the added risk premium indicated by differences in beta risk.[43]

Q. PLEASE EXPLAIN THE MARKET RISK PREMIUM.

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39 *See Blue Chip Financial Forecast* (Vol. 42, No. 12, December 1, 2023) – Long-Range Survey and Table 9.

40 *Kroll*, Chapter 3, p. 1.

41 Morin, p 172.

42 *Morningstar*, Chapter 7.

43 *Id*.

A. The market-risk premium (R_m-R_f) is the return an investor expects to receive as compensation for market risk. It is the expected market return minus the risk-free rate. Approaches for estimating the market risk premium can be historical or prospective.

Since expected returns are not directly observable, historical realized returns are often used as a proxy for expected returns on the basis that the historical market risk premium follows what is known in statistics as a "random walk." If the historical risk premium does follow the random walk, then one should expect the risk premium to remain at its historical mean. Based on this, the best estimate of the future market risk premium is the historical mean. *Kroll* provides historical market returns for various asset classes from various historical time periods. This publication also provides market risk premiums over U.S. Treasury bonds, which makes it an excellent source for historical market risk premiums.

A current market risk premium estimation approach necessarily requires examining the returns expected from common equities and bonds. One method employs application of the DCF model to a representative market index such as the *Value Line* 1700 stocks. The expected return from the DCF is measured for a number of periods of time, and then subtracted from the prevailing risk-free rate for each period to arrive at market risk premium for each period. The market risk premium that is subsequently employed in the CAPM is the average market risk premium of the overall period.

Q. HOW DID YOU ESTIMATE THE MARKET RISK PREMIUMS FOR USE IN THE CAPM MODELS?

A. For the traditional CAPM and ECAPM, I averaged two market risk premium estimates: an average of an historical market risk premium (1926-2023) and a current market risk premium. For the MCAPM I used an historical market risk premium (1963-2023) and a current market risk premium.

For the historical market risk premiums I used the *Kroll* measure of the average premium of the market over long-term treasury securities from 1926 through 2023 and 1963 through 2023, both of which use the S&P 500 market index (which is considered a large-cap index). The average

historical market risk premium over long-term treasury securities is 7.17 percent for the 1926 to 2023 time period and 5.82 percent for the 1963 through 2023 time period.

For the current market risk premium, I derived a market risk premium by first using the DCF model to compute an expected market return for each of the past 12 months using *Value Line's* projections of the average dividend yield for the dividend yield in the DCF and an average of the median EPS, DPS and BVPS growth on the *Value Line* 1700 stocks. I then subtracted the historical monthly average 30-year Treasury yield for each month from the expected market returns to arrive at the expected market risk premiums. Finally, I averaged the computed market risk premiums to determine the current market risk premium for the last 12 months, 9 months, 6 months, and 3 months. The data and computations are shown on Table 10. Estimates of the current market risk premium have ranged from 5.80 percent to 7.47 percent over the past 12 months. My recommended market risk premium is based on the recent 3-month average estimate of 6.06 percent well below the mid-point of the range of the past 12-months of 6.63 percent and below the median over the past 12-months of 6.55 percent.

Q. HOW DID YOU ESTIMATE THE SIZE PREMIUM FOR THE ELECTRIC PROXY GROUP FOR USE IN THE MCAPM?

A. *Kroll's* Size Study sorts companies by eight measures of size, breaking down the NYSE universe of companies into 25 size-ranked portfolios.[44] The Size Study provides two ways to match a company's size (or risk) characteristics to the appropriate size (or risk) premium – a guideline portfolio method and a regression equation method. I used the regression equation method to find the CAPM size risk premium for each of the publicly traded utilities in the proxy group for six measures of size (market value of equity, book equity, market value of invested capital, 5-year average of net income, total assets, and earnings before interest, taxes, depreciation and

[44] The size measures include: 1) Market Capitalization; 2) Book Value of Equity; 3) 5-year Average Net Income; 4) Market Value of Invested Capital; 5) Total Assets; 6) 5-year Average Earnings Before Interest, Taxes, Depreciation and Amortization ("EBITDA"); 7) Sales; and 8) Number of Employees. See *2018 Valuation Handbook*, Chapter 7, p. 6.

amortization).[45] I determined the average size premium of all size measures for the proxy group (2.27 percent) and then adjusted the average size premium to reflect the lower risk of the electric proxy group compared to the companies that make up the respective size-ranked portfolios. This comparative risk study uses the fundamental measures of company risk (operating margin, coefficient of variation in operating income, and coefficient of variation in return on book equity) to gauge how alike or different the electric proxy group is compared to the companies that make up the size-ranked portfolios in the Size Study. In the instant case, the estimated reduction in risk is -0.40 percent. Thus, the market risk premium for size for the proxy group is 1.87 percent (2.27 percent - 0.40 percent). Using the same procedure, I determined the market risk premium for size for Liberty is 4.08 percent which is 222 basis points higher than the size premium for the electric proxy group. *See* Exhibit TJB-6, page 4**.**

Q. WHAT ARE THE RESULTS OF YOUR CAPM METHODS.

A. In Table 11, the traditional CAPM produces an indicated cost of equity of 10.1 percent. The ECAPM produces an indicated cost of equity of 10.2 percent. The MCAPM produces an indicated cost of equity of 11.1 percent. The average of these three methods is 10.5 percent. See Table 11. My estimate for Liberty is 10.9 percent. See Table 1.

VI. REQUIRED RISK PREMIUM FOR LIBERTY

Q. PLEASE DISCUSS YOUR RECOMMENDED RISK PREMIUM FOR LIBERTY.

A. As I testified earlier, Liberty is not directly comparable to the publicly traded electric utilities in my electric proxy group. The characteristics associated with small size, such as the lack of diversification, limited revenue and cash flow, relatively small customer base, lack of investment liquidity, and earnings volatility, increase the risk faced by smaller electric utilities over the risk associated with the electric proxy group.

Q. PLEASE DISCUSS SIZE RISK FOR SMALL UTILITY COMPANIES.

[45] *Kroll Cost of Capital Navigator*, 2023 Supplementary Size Study data and 2018 Supplementary Data Regression Equations.

A. Investment risk increases as the firm size decreases, all else remaining constant. There is a great deal of empirical evidence that the firm size phenomenon exists. Morningstar's *Ibbotson SBBI 2013 Valuation Yearbook* (Chapter 7) reports that smaller companies have experienced market higher returns that are not fully explainable by their higher betas, and that beta is inversely related to firm size. In other words, smaller companies, not only have higher betas, but also higher market returns than larger ones. Even after accounting for differences in beta risk, small companies require an additional risk premium over and above the added risk premium indicated by differences in beta risk.

Q. BESIDES LIBERTY'S RELATIVELY SMALL SIZE COMPARED TO THE ELECTRIC PROXY GROUP, WHAT OTHER CONSIDERATIONS SHOULD BE GIVEN AS TO THE HIGHER BUSINESS RISKS OF LIBERTY?

A. Ms. Rao's testimony in Chapter 10 discusses several considerations impacting risk to Liberty including regulatory climate and risk, and operational risk including the risk of wildfires. I will not repeat her testimony here. How these risks individually impact Liberty's investment risk can be debated. However, it is clear that Liberty is more risky than the electric proxy group as demonstrated by the business risk metrics discussed earlier on page 23 through 25.

Q. PLEASE EXPLAIN YOUR COMPARATIVE RISK STUDY YOU PREPARED TO DEVELOP A RISK PREMIUM FOR LIBERTY TO BE ADDED TO THE RESULTS FOR THE ELECTRIC PROXY GROUP?

A. Yes. The risk study I prepared for Liberty is attached as Exhibit TJB-5. To conduct my comparative risk study, I started by computing the 5-year historical operating margin, coefficient of variation of operating margin, and coefficient of variation of ROE for Liberty. Operating margin is a measure of profitability. The co-efficient of variation of operating margin and ROE are measures of earnings variability. All three of these metrics are highly correlated with size and risk.

Q. ARE THESE THE METRICS FOR THE ELECTRIC PROXY GROUP AND LIBERTY YOU PRESENTED EARLIER IN YOUR TESTIMONY?

A. Yes, on page 23.

Q. PLEASE CONTINUE.

A. Next, I cross-referenced these metrics with data from *Kroll Cost of Capital Navigator* Supplementary Data Risk Study and identified the corresponding market portfolio beta for the Company and for my electric proxy group.[46] I then computed the relative difference in beta between and the electric proxy group and Liberty. Assuming that the relative difference in the market portfolio beta for the all publicly traded companies is the same for publicly traded electric utilities, I then computed implied betas for Liberty using the difference in portfolio betas.[47] Finally, I used the CAPM methods to compute the indicated cost of equity for each utility and compared the results to the CAPM results for the electric proxy group.[48] Based upon this analysis, I conclude that required risk premium for Liberty is 40 basis points.

Q. IS THERE ANOTHER METHOD WHICH PROVIDES USEFUL INFORMATION ABOUT THE RISK PREMIUM FOR LIBERTY?

A. Yes. Based upon my analysis of the size risk premium for use in the MCAPM, I found that Liberty's size premium over the electric proxy group (and not dependent upon beta) is 222 basis points. See Exhibit TJB-6, page 4, line 34.

Q. WHAT RISK PREMIUM OVER THE ELECTRIC PROXY GROUP DO YOU RECOMMEND FOR LIBERTY?

A. I recommend a minimum of 40 basis points.

VII. SUMMARY AND CONCLUSIONS

Q. PLEASE PROVIDE AN OVERVIEW OF YOUR TESTIMONY.

A. I recommend the Commission adopt the three-step method I presented above to determine the ROE for Park. In the first step, an average of costs of equity for a sample of 21 electric utilities is determined with the DCF model and several RP models. I determined the cost of equity for the

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[46] *Kroll Cost of Capital Navigator*, Supplementary Data Risk Study. See also page 6 of **Exhibit TJB-5.**

[47] *See* page 6 of **Exhibit TJB-4**.

[48] *See* page 7 of **Exhibit TJB-4.**

electric proxy group lies in the range of 9.8 percent to 11.3 percent with a mid-point of 10.6 percent.

In the second step, I considered differences in financial risk between Liberty and the proxy group. I determined that Liberty's recommended capital structure is well within the range of capital structures of the proxy group and only somewhat below the average of the proxy group. I concluded that a financial risk adjustment was not necessary.

In the third step, a risk premium for Liberty is determined to reflect the Company's higher risks. Quantitative evidence based on differences in Liberty's business risk metrics compared to the benchmark electric proxy group justifies a risk premium in the range of 90 to 150 basis points based upon relative risk and up to 222 basis points based upon size. I recommend a risk premium of 40 basis points.

In the final step, equity costs from step one and the risk premiums from step two and three are combined to determine a fair ROE for Liberty of 11.0 percent. I recommend the Commission adopt an ROE for Liberty of no less than 11.0 percent.

Q. PLEASE SUMMARIZE THE EQUITY COST ESTIMATES YOU MADE IN STEP ONE.

A. I made four equity cost estimates for the electric proxy group, which are summarized in Table 1. Where data were available, the equity cost estimates were based on data for the eight electric utilities listed in Table 2. The first equity cost estimates were derived with the DCF model. Using the DCF model to estimate growth, the estimated equity cost for the electric proxy group is 9.8 percent. Next, I determined two risk premium estimates and CAPM method (a third risk premium method).

In the first RP approach, I determined an historical risk premium for the electric utility industry estimated with an annual time series analysis applied to the utility industry as a whole over the 1963-2023 period, using *Standard and Poor's Utility Index* as an industry proxy. The historical risk premium was estimated by computing the actual realized return on equity capital for the S&P Utility Index for each year and then subtracting the long-term Treasury bond return for that year. The estimated equity cost for the electric proxy group is 11.3 percent using this

approach.

In the second RP approach, I use annual averages of available DCF equity costs for utilities in the sample as the annual proxies for the costs of equity. This analysis was based on data for the period 2014 to 2023. Current dividend yields are annual averages of yields for the electric utilities sample in the various years as reported by *Value Line*. Growth rates are averages of EPS growth rates forecasted by *Value Line*. This RP analysis indicates a cost of equity of 10.2 percent for the electric proxy group.

I also established a range of CAPM estimates using long-horizon estimates of the market risk premium as well as a current of the market risk premium which produced a cost of equity for the electric proxy group of 9.0 percent to 11.0 percent with an average of 9.8 percent.

I selected the mid-point of the range of my DCF and RP estimates including the CAPM to establish a cost of equity for the electric proxy group of 10.5 percent.

Q. PLEASE SUMMARIZE YOUR ESTIMATE OF THE RISK PREMIUM YOU DETERMINED IN STEP 3.

A. I prepared a comparative risk study use commonly used business risk metrics and data from *Kroll Cost of Capital Navigator* 2023 Supplementary Data Risk Study. Based upon this study, I conclude that risk premium for Liberty is 40 basis points. I also examined differences in the size premium between Liberty and the electric proxy group based upon the *Kroll Cost of Capital Navigator* 2023 Supplementary Data Size Study and Risk Study. Based upon this analysis, I conclude that the risk premium for Liberty is 222 basis points. Based on my consideration of that testimony and my judgment, I recommend a risk premium for Liberty of no less than 40 basis points at this time.

Q. GIVEN THE RESULTS OF YOUR EQUITY COST ANALYSES, IS AN ROE OF 11.0 PERCENT FOR LIBERTY REASONABLE?

A. Yes.

Q. DOES THIS COMPLETE YOUR TESTIMONY?

A. Yes.

Exhibit TJB-1

RESUME OF THOMAS J. BOURASSA, CPA

EDUCATIONAL BACKGROUND

B.S. Northern Arizona University Chemistry/Accounting (1980)
M.B.A. University of Phoenix with Emphasis in Finance (1991)
C.P.A. State of Arizona (1995)
Continuing Professional Education – In areas of tax, accounting, management, economics, finance, business valuation, consulting, and ethics (80 hrs every two years)

MEMBERSHIPS

Arizona Society of CPAs
Water Utilities Association of Arizona
American Water Works Association

EMPLOYMENT EXPERIENCE

1995 – Present	CPA - Self Employed Consultant to utilities on regulatory matters including all aspects of rate applications (rate base, income statement, cost of capital, cost of service, and rate design), rate reviews, certificates of convenience and necessity (CC&N), CC&N extensions, financing applications, accounting order applications, and off-site facilities hook-up fee applications. Provide expert testimony as required. Consult on various aspects of business, financial and accounting matters including best business practices, generally accepted accounting principles, generally accepted ratemaking principles, project analysis, cash flow analysis, regulatory treatment of certain expenditures and investments, business valuations, and rate reviews. Litigation support services.
1992-1995	Employed by High-Tech Institute, Phoenix, Arizona as Controller and C.F.O.
1989-1992	Employed by Alta Technical School, a division of University of Phoenix as Division Controller.
1985-1989	Employed by M.L.R. Builders, Tampa and Pensacola, Florida as Operations/Accounting Manager
1982-1985	Employed by and part owner in Area Sand and Clay Company, Pensacola, Florida.

1981-1982	Employed by Purdue University, West Lafayette, Indiana as Teaching Assistant.

SUMMARY OF REGULATORY WORK EXPERIENCE AS SELF-EMPLOYED CONSULTANT

COMPANY/CLIENT	FUNCTION
Community Water Company of Green Valley ACC Docket No. W-02304A-24-0187	Permanent Rate Application –Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Sahuarita Water Company ACC Docket No. W-03718A-24-0172	Permanent Rate Application –Water. Prepared financing application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service Study, Rate Design, and Cost of Capital.
Global Water – Framers Water Company ACC Docket No. W-01654A-24-0108	Permanent Rate Application –Water. Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design
Liberty Utilities (Bella Vista Water) Corp. ACC Docket No. W-02465A-23-0338 Liberty Utilities (Beardsley Water) Corp. ACC Docket No. W-02074A-23-0337 Liberty Utilities (Rio Rico Water & Sewer) Corp. ACC Docket No. WS-02676A-23-0340 Liberty Utilities (Cordes lakes Water) Corp. ACC Docket No. WS-02060A-23-0339	Permanent Rate Application –Water and Wastewater. Prepared financing application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service Study, Rate Design, and Cost of Capital.
Cedar Grove Water, Inc. ACC Docket No. W-20541A-24-0002	Permanent Rate Application –Water. Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design
Thim Utility Co. ACC Docket No. W-03293A-23-0296	Permanent Rate Application –Water. Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design
Navajo Water Company	Permanent Rate Application –Water.

COMPANY/CLIENT	FUNCTION
ACC Docket No. W-03511A-23-0260	Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design
Sonoita Valley Water ACC Docket No. W-020435A-23-214	Permanent Rate Application –Water. Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design
Liberty Utilities (Park Water and Apple Valley) Corp. CPUC Docket A.23-05-004	Cost of Capital. Prepared Cost of Capital analysis and testimony.
Links at Coyote Wash ACC Docket No. SW-04210A-23-0084	Permanent Rate Application –Sewer. Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design
Truxton Canyon Water Company ACC Docket No. W-02168A-22-0302	Permanent Rate Application –Water. Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design
Pima County v. City of Tucson, et. al. Maricopa County Superior Court Case No. CV2022-01141	Expert Witness for Pima County of City on Tucson Water Cost of Service Study and Differential Rates.
Tonto Basin Water Company ACC Docket No. W-03515A-22-0266	Permanent Rate Application –Water. Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design
East Slope Water Company ACC Docket No. W-01906A-22-0289	Permanent Rate Application –Water. Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design
Sunrise Vistas Utilities ACC Docket No. WS-03586A-22-0068	Permanent Rate Application –Water and Wastewater. Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Liberty Utilities (Gold Canyon Sewer) Corp.	Permanent Rate Application –Wastewater. Prepared financing application. Prepared

COMPANY/CLIENT	FUNCTION
	schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service Study, Rate Design, and Cost of Capital.
Liberty Utilities (Entrada Del Oro Sewer) Corp. ACC Docket No. SW-02519A-21-0361 ACC Docket No. SW-04316A-21-0359	
Navajo Water Company ACC Docket No. W-03511A-21-0124	Permanent Rate Application – Water. Prepared short-form schedules for Rate Base, Income Statement, Plant, Bill Counts, and Rate Design.
Bensch Ranch Utilities, LLC. ACC Docket No. SW-04026A-21-0225	Permanent Rate Application –Water Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Cerbat Water Company ACC Docket No. W-02391A-21-0290	Permanent Rate Application –Water Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Liberty Utilities (Calpeco Electric, LLC) Corp. CPUC Docket A.21-05-017	Cost of Capital. Prepared Cost of Capital analysis and testimony. Assisted in tax depreciation projections and determination of projected accumulated deferred income taxes.
Double R Water Distributors, Inc. ACC Docket No. W-02821A-21-0047	Permanent Rate Application –Water Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Pine Meadows Utilities, LLC. ACC Docket No. SW-03962A-20-0079	Permanent Rate Application –Water Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Coronado Utilities, Inc. ACC Docket No. SW-04305A-20-0346	Permanent Rate Application – Wastewater Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
SaddleBrooke Utility Company ACC Docket No. SW-02849A-20-0262	Permanent Rate Application – Wastewater Prepared schedules and testified on Rate

COMPANY/CLIENT	FUNCTION
	Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Pine Meadows Utilities ACC Docket No. SW-03926A-20-0079	Permanent Rate Application –Wastewater Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
EPCOR Arizona (Johnson Utilities) ACC Docket No. WS-02987A-20-0025	Permanent Rate Application. Water and Wastewater. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design and Cost of Service.
Beardsley Water Company ACC Docket No. W-02074A-19-0312	Permanent Rate Application –Water Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Oak Creek Water Company No. 1 ACC Docket No. W-01392A-19-0216	Permanent Rate Application –Water Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Alliant Gas ACC Docket No. G-20889A-19-0200	Permanent Rate Application – Gas Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service Study, Rate Design, and Cost of Capital.
Utility Source, LLC. ACC Docket No. WS-04235A-19-0232 ACC Docket No. WS-04235A-19-0233	Permanent Rate Application – Water and Wastewater. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Liberty Utilities (Black Mountain Sewer) Corp. ACC Docket No. SW-02361A-19-0139	Permanent Rate Application –Wastewater. Prepared financing application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service Study, Rate Design, and Cost of Capital.

COMPANY/CLIENT	FUNCTION
Pueblo Del Sol Water Company ACC Docket No. SW-02208A- 19-0140	Permanent Rate Application –Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
DS Water Company ACC Docket No. W-04049A-18-0142	Permanent Rate Application –Water Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Liberty Utilities (CalPeco Electric) LLC CPUC Application 18-12-001.	Cost of Capital. Prepared Cost of Capital analysis and testimony.
Liberty Utilities (Park Water) Corp. and Liberty Utilities (Apple Valley Ranchos Water) Corp. CPUC Applications 18-05-001, et al.	Cost of Capital. Prepared Cost of Capital analysis and testimony.
Truxton Water Company ACC W-02168A-18-308	Permanent Rate Application –Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Payson Water Company ACC W-03514A-18-0230	Permanent Rate Application – Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Farmers Water Company ACC W-01654A-18-0083	Permanent Rate Application – Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Liberty Utilities (Silverleaf Water) Corp. SOAH DOCKET NO. 473-18-3006.WS Texas P.U.C. DOCKET NO. 47976	Permanent Rate Application – Water and Wastewater. Prepared financing application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Generic Proceeding - Income Tax "Savings" from reduction in Federal	Prepared computations of tax "savings" from the reduction in federal income tax

COMPANY/CLIENT	FUNCTION
Income Tax Rate ACC AU-0000A-17-0379 ACC various dockets	rates and proposal for passing savings to rate payers through bill credits.
Liberty Utilities (Woodmark Sewer) Corp. Liberty Utilities (Tall Timbers Sewer) Corp. SOAH DOCKET NO. 473-17-1641.WS Texas P.U.C. DOCKET NO. 46256	Develop wastewater rates based upon water usage.
Cerbat Water Company ACC W-02391A-18-0018	Permanent Rate Application –Water. Prepared financing application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Ajo Improvement Company ACC Docket No. WS-01025A-17-0361	Permanent Rate Application – Water, Wastewater, and Electric. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design,
East Slope Water Company ACC Docket No. W-02031A-17-317	Permanent Rate Application –Water Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Kachina Village Improvement District Flagstaff, Arizona	Prepared rate studies and rate designs. Participated in Board work sessions, customer work sessions, and open houses.
Liberty Utilities (Litchfield Park Water & Sewer) Corp. ACC Docket No. W-01428AA-17-0059 ACC Docket No. SW-01428AA-17-0058	Permanent Rate Application – Water and Wastewater. Prepared financing application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service, Rate Design, and Cost of Capital.
Pima Utility Company ACC Docket No. W-02199A-16-0421 ACC Docket No. SW-02199A-16-0422	Permanent Rate Application – Water and Wastewater. Prepared financing application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

COMPANY/CLIENT	FUNCTION
Valley Pioneers Water Company ACC Docket No. W-02033-16-0412	Permanent Rate Application –Water. Prepared financing application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Yarnell Water Co-Op ACC Docket No. W-02255A-16-0153	Permanent Rate Application –Water Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Oak Creek Water Company No. 1 ACC Docket No. W-01392A-16-0161	Permanent Rate Application –Water Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Epcor Water Arizona ACC Docket No. W-01303A-16-0145	Permanent Rate Application – Wastewater. Prepared Reconstruction Cost New Less Depreciation Plant for use in determining fair value rate base.
Mountain Water Company Montana PUC Docket No. D2016.2.15	Testified in the matter investigating whether Mountain Water Company's rates are just and reasonable.
Turner Ranches Water and Sanitation Company ACC Docket No. W-01677A-16-0076	Permanent Rate Application –Water Prepared short-form schedules on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Liberty Utilities (Entrada Del Oro Sewer) Corp. ACC Docket No. W-04316A-16-0078 ACC Docket No. W-04316A-16-0085	Permanent Rate Application –Wastewater. Prepared financing application. Prepared schedules and testified on Rate Base, Original Cost Less Depreciation Plant, Reconstruction Cost New less Depreciation Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Liberty Utilities (Rio Rico Water and Sewer) Corp. ACC Docket No. WS-02676A-15-0368 ACC Docket No. WS-02676A-15-0371	Permanent Rate Application – Water and Wastewater. Prepared financing application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

COMPANY/CLIENT	FUNCTION
Liberty Utilities (Bella Vista Water) Corp. ACC Docket No. W-02465A-15-0367 ACC Docket No. W-02465A-15-0370	Permanent Rate Application – Water. Prepared financing application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Community Water of Green Valley ACC Docket No. W-02304A-15-0263	Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Sahuarita Water Company ACC Docket No. W-03718A-15-0213	Permanent Rate Application –Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Liberty Utilities (Black Mountain Sewer) Corp. ACC Docket No. SW-0236 1A- 15-0206 ACC Docket No. SW-0236 1A- 15-0207	Permanent Rate Application –Wastewater. Prepared financing application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service Study, Rate Design, and Cost of Capital.
Tierra Buena Water Company ACC Docket No. W-02076A-15-013	Permanent Rate Application – Water. Assisted in preparation of short-form schedules.
Red Rock Utilities, LLC ACC Docket No. W-04245A-14-0295	Permanent Rate Application – Water and Wastewater. Prepared short-form schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Quail Creek Water Company ACC Docket No. W-02514A-14-0370	Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Tonto Basin Water Company ACC Docket No. W-03515A-14-0310	Permanent Rate Application – Water. Prepared short-form schedules for Rate

COMPANY/CLIENT	FUNCTION
	Base, Income Statement, Plant, Bill Counts, and Rate Design.
Navajo Water Company ACC Docket No. W-03511A-14-304	Permanent Rate Application – Water. Prepared short-form schedules for Rate Base, Income Statement, Plant, Bill Counts, and Rate Design.
Alaska Power Company Regulatory Commission of Alaska Docket No. U-14-002	Prepared schedules and testified on cost of capital.
Anchorage Municipal Light & Power Regulatory Commission of Alaska Docket No. U-13-184	Prepared schedules and testified on cost of capital.
Liberty Utilities (Pine Bluff) Inc. Arkansas Public Service Commission Docket No. 14-020-U	Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service, Rate Design, and Cost of Capital.
Abra Water Company ACC Docket No. W-01782A-14-0084	Permanent Rate Application – Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
EPCOR Water Arizona, Inc. ACC Docket No. W-01303A-14-0010	Permanent Rate Application – Prepared rate designs and cost of Service studies for Mohave Water District, Mohave Wastewater District, Paradise Valley Water District, Tubac Water District, and Sun City Water District.
Liberty Utilities (Midstates Natural Gas), Inc. Missouri Public Service Commission Case No. GR-2014-0152	Permanent Rate Application – Assist in preparing required rate application schedules for Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Hydro Resources, LLC. ACC Docket No. W-20770A-13-0313	Certificate of Convenience and Necessity – Water. Prepared pro-forma balance sheets, income statements, plant

COMPANY/CLIENT	FUNCTION
	schedules, rate base, and initial rates.
Little Park Water Company ACC Docket No. W-02192A-13-0336	Permanent Rate Application – Water. Prepared short-form schedules for Rate Base, Income Statement, Plant, Bill Counts, and Rate Design.
Utility Source, LLC. ACC Docket No. WS-04235A-13-0331	Permanent Rate Application – Water and Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Payson Water Company ACC Docket No. W-03514A-13-0111 ACC Docket No. W-03514A-13-0142	Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital. Financing Application. Prepared financial ratios and debt surcharge mechanism.
Goodman Water Company	Valuation
Verde Santa Fe Wastewater ACC Docket No. SW-03437A-13-0292	Permanent Rate Application – Wastewater. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Lago Del Oro Water Company ACC Docket No. W-01944A-13-0215	Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service, Rate Design, and Cost of Capital.
Chaparral City Water Company ACC Docket No. W-02113A-13-0118	Permanent Rate Application – Prepared and testified on cost of service study.
Las Quintas Serenas Water Company ACC Docket No. W-01583A-13-0117	Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

COMPANY/CLIENT	FUNCTION
Southwest Environmental Utilities. Inc. ACC Docket No. WS-20878A-13-0065	Certificate of Convenience and Necessity – Water and Wastewater. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, and initial rates.
Litchfield park Service Company ACC Docket No. SW-01428A-13-0043 ACC Docket No. W-01428A-13-0042	Permanent Rate Application – Water and Wastewater. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, Cost of Service, and Cost of Capital.
Beaver Dam Water Company ACC Docket No. WS-03067A-12-0232	Permanent Rate Application. Prepared schedules on Plant, Income Statement, Revenue Requirement, and Rate Design.
Rio Rico Utilities ACC Docket No. WS-02676A-12-0196	Permanent Rate Application – Water and Wastewater. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service, Rate Design, and Cost of Capital.
Vail Water Company ACC Docket No. W-01651B-12-0339	Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service, Rate Design, and Cost of Capital.
Avra Water Co-Op. ACC Docket No. W-02126A-11-0480	Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service, Rate Design, and Cost of Capital.
Pima Utility Company ACC Docket No. W-02199A-11-0329 ACC Docket No. SW-02199A-11-0330	Permanent Rate Application – Water and Wastewater. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Cost of Service, Rate Design, and Cost of Capital. Work on financing application.
Liberty Utilities (CALPECO Electric), LLC) Docket No. 11202020	Work on preparation of permanent rate application. Prepared schedules on Rate Base, Plant, Income Statement, Revenue

COMPANY/CLIENT	FUNCTION
	Requirement.
Livco Water Company ACC Docket No. SW-02563A-11-0213	Permanent Rate Application – Water and Wastewater. Prepared short-form schedules for Rate Base, Income Statement, Plant, Bill Counts, and Rate Design.
Orange Grove Water Company ACC Docket No. W-02237A-11-0180	Permanent Rate Application. Prepared schedules on Plant, Income Statement, Revenue Requirement, and Rate Design.
Goodman Water Company ACC Docket No. W-02500A-10-0382	Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Doney Park Water ACC Docket No. W-01416A-10-0450	Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Grimmelmann, et. al. v. Pulte Home Corporation, et. al., case no. CV-08-1878-PHX-FJM, the United States District Court for the District of Arizona.	Consultant to defendant and expert witness for defendant on rates and ratemaking.
Southern Arizona Home Builders Association	Consultant on ratemaking aspects to line extension policies (electric).
H2O Water Company	Valuation
Tierra Linda HOA Water Company	Valuation
Las Quintas Serenas Water Company ACC Docket No. W-01583A-09-0589	Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Coronado Utilities ACC Docket No. SW-04305A-09-0291	Permanent Rate Application – Wastewater. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.

COMPANY/CLIENT	FUNCTION
Little Park Water Company ACC Docket No. W-02192A-09-0531	Permanent Rate Application. Prepared schedules on Plant, Income Statement, Revenue Requirement, and Rate Design.
Sahuarita Water Company ACC Docket No. W-03718A-09-0359	Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, Cost of Service, and Cost of Capital.
Bella Vista Water Company Southern Sunrise Water Company Northern Sunrise Water Company ACC Docket No. W-02465A-09-0414 ACC Docket No. W-02453A-09-0414 ACC Docket No. W-02454A-09-0414	Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, Cost of Service, and Cost of Capital.
Rio Rico Utilities, Inc ACC Docket No. WS-02676A-09-0257	Permanent Rate Application – Water and Wastewater. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Litchfield park Service Company ACC Docket No. SW-01428A-09-0103 ACC Docket No. W-01428A-09-0104	Permanent Rate Application – Water and Wastewater. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, Cost of Service, and Cost of Capital.
Town of Thatcher v. City of Safford, CV 2007-240, Superior Court of Arizona	Consultant to plaintiff on ratemaking and cost of service.
Valencia Water Company California Public Utility Commission Case No. 09-05-002	Cost of Capital
Valley Utilities ACC Docket No. W-01412A-08-0586	Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Black Mountain Sewer Company	Permanent Rate Application – Sewer.

COMPANY/CLIENT	FUNCTION
ACC Docket No. SW-02361A-08-0609	Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Far West Water and Sewer Company ACC Docket No. WS-03478A-08-0608	Interim Rate Application (Emergency Rates)
Farmers Water Company ACC Docket No. W-01654A-08-0502	Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Far West Water and Sewer Company ACC Docket No. WS-03478A-08-0454	Permanent Rate Application. Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design and Cost of Capital.
Ridgeline Water Company, LLC ACC Docket No. W-20589A-08-0173	Certificate of Convenience and Necessity – Water. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, financing, and intitial rates.
Sacramento Utilities, Inc. ACC Docket No. SW-20576A-08-0067	Certificate of Convenience and Necessity – Wastewater. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, and financing.
Johnson Utilities ACC Docket No. WS-02987A-08-0180	Permanent Rate Application. Water and Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design and Cost of Capital. Participate in 40-252 proceeding.
Orange Grove Water Company ACC Docket No. W-02237A-08-0455	Permanent Rate Application. Prepared schedules on Plant, Income Statement, Revenue Requirement, and Rate Design.
Far West Water and Sewer Company ACC Docket No. WS-03478A-07-0442	Financing Application. Prepare schedules to support application.

COMPANY/CLIENT	FUNCTION
Oak Creek Water No.1 ACC Docket No. W-01392A-07-0679	Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
ICR Water Users Association Docket W-02824-07-0388	Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Johnson Utilities	Valuation consultant in the matter of the sale of Johnson Utilities assets to the Town of Florence.
H2O, Inc ACC Docket No. W-02234A-07-0550	Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Chaparral City Water Company ACC Docket No. W-02113A-07-0551	Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Valley Utilities ACC Docket No. W-01412A-07-0561	Financing Application. Prepare schedules to support application.
Valley Utilities ACC Docket No. W-01412A-07-280	Emergency Rate Application. Prepare schedules to support application.
Valley Utilities ACC Docket No. W-01412A-07-0278	Accounting Order. Assist in preparing definition and scope of costs for deferral for future regulatory consideration and treatment.
Litchfield Park Service Company ACC Docket No. W-01427A-06-0807	Accounting Order. Assist in preparing definition and scope of costs for deferral for future regulatory consideration and treatment.
Golden Shores Water Company	Permanent Rate Application. Water.

COMPANY/CLIENT	FUNCTION
ACC Docket No. W-01815A-07-0117	Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Diablo Village Water Company ACC Docket No. W-02309A-07-0140	Off-site facilities hook-up fee application. Prepare schedules to support application.
Diablo Village Water Company ACC Docket No. W-02309A-07-0399	Permanent Rate Application (Class C). Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Sahuarita Water Company (Rancho Sahuarita Water Co.) ACC Docket No. W-03718A-07-0687	Extension Certificate of Convenience and Necessity – Water. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, and financing.
Utility Source, L.L.C. ACC Docket No. WS-04235A-06-0303	Permanent Rate Application- Water and Wastewater. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Tierra Buena Water Company	Valuation of Tierra Buena Water Company for estate purposes.
Goodman Water Company ACC Docket No. W-02500A-06-0281	Permanent Rate Application (Class C). Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, and Cost of Capital.
Links at Coyote Wash Utilities ACC Docket No. SW-04210A-06-0220	Certificate of Convenience and Necessity – Sewer. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, financing, and initial rate design.
New River Utilities ACC Docket No. W-0173A-06-0171	Extension Certificate of Convenience and Necessity – Water. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, and financing.

COMPANY/CLIENT	FUNCTION
Johnson Utilities ACC Docket No. WS-02987A-04-0501 Docket WS-02987A-04-0177	Extension of Certificate of Convenience and Necessity – Sewer. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, financing, and initial rate design.
Bachmann Springs Utility ACC Docket No. WS-03953A-07-0073	Permanent Rate Application – Water and Sewer. Prepared short-form schedules for Rate Base, Income Statement, Plant, Bill Counts, and Rate Design.
Avra Water Cooperative ACC Docket No. W-02126A-06-0234	Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Gold Canyon Sewer Company ACC Docket No. SW-025191A-06-0015	Permanent Rate Application – Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
State of Arizona v. Far West Water and Sewer, No. 1 CA-CR 06-0160	Expert witness on behalf of defendant in penalty phase of case.
Far West Water and Sewer Company ACC Docket No. WS-03478A-05-0801	Permanent Rate Application – Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Black Mountain Sewer Company ACC Docket No. SW-02361A-05-0657	Permanent Rate Application – Sewer. Prepared schedules and testified on Rate Base, Plant, Income Statement, Revenue Requirement, Rate Design, and Cost of Capital.
Balterra Sewer Company ACC Docket No. SW-02304A-05-0586	Certificate of Convenience and Necessity – Sewer. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, financing, and initial rate design.
Community Water Company of Green Valley	Permanent Rate Application – Water. Prepared schedules and testified on Rate

COMPANY/CLIENT	FUNCTION
ACC Docket No. W-02304A-05-0830	Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
McClain Water Systems Northern Sunrise Water Southern Sunrise Water ACC Docket No. W-020453A-06-0251	Certificate of Convenience and Necessity – Water. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, financing, and initial rate design.
Valley Utilities Water Company ACC Docket No. W-01412A-04-0376	Off-site facilities hook-up fee application. Prepare schedules to support application.
Valley Utilities Water Company ACC Docket No. W-01412A-04-0376	Permanent Rate Application – Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, and Revenue Requirement. Assisted in preparation of Rate Design.
Beardsley Water Company ACC Docket No. W-02074A-04-0358	Permanent Rate Application – Water. Prepared short-form schedules for Rate Base, Income Statement, Plant, Bill Counts, and Rate Design.
Pine Water Company, Inc. ACC Docket No. W-03512A-03-0279	Interim and Permanent Rate Application, Financing Application - Water. Prepared schedules and testified on Rate Base, Plant, Income Statement, Cost of Capital, and Rate Design.
Chaparral City Water Company ACC Docket No. W-02113A-04-0616	Permanent Rate Application. Prepared schedules and testified on Rate Base, Plant, and Income Statement. Assisted in preparation Rate Design.
Tierra Linda Home Owners Association ACC Docket No. W-0423A-04-0075	Certificate of Convenience and Necessity – Water. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, financing, and initial rate design.
Diamond Ventures - Red Rock Utilities ACC Docket No. WS-04245A-04-0184	Certificate of Convenience and Necessity – Water and Sewer. Prepared pro-forma balance sheets, income statements, plant schedules, rate base, financing, and initial

COMPANY/CLIENT	FUNCTION
	rate design.
Arizona-American Water Company, Inc. ACC Docket No. WS-01303A-02-0867 ACC Docket No. WS-01303A-02-0868 ACC Docket No. WS-01303A-02-0869 ACC Docket No. WS-01303A-02-0870 ACC Docket No. WS-01303A-02-0908	Permanent Rate Application Water and Sewer (10 divisions). Prepared schedules and testimony on Rate Base, Plant, Income Statement, and Revenue Requirement. Assisted in preparation of Rate Design.
Bella Vista Water Company, Inc. ACC Docket No. W-02465A-01-0776	Permanent Rate Application - Water. Prepared schedules and testimony on Rate Base, Plant, Income Statement, and Revenue Requirement. Assisted in preparation of Cost of Capital and Rate Design.
Green Valley Water Company Docket (2000 Not Filed)	Permanent Rate Application. Prepared schedules and testimony on Rate Base, Plant, Income Statement, and Revenue Requirement. Assisted in preparation of Cost of Capital and Rate Design.
Gold Canyon Sewer Company ACC Docket No. SW-02519A-00-0638	Permanent Rate Application - Sewer. Prepared schedules and testimony on Rate Base, Plant, Revenue Requirement, and Income Statement. Assisted in preparation of Cost of Capital and Rate Design.
Rio Verde Utilities, Inc. ACC Docket No. WS-02156A-00-0321	Permanent Rate Application – Water and Sewer. Prepared schedules and testimony on Rate Base, Plant, Revenue Requirement, and Income Statement. Assisted in preparation of Cost of Capital and Rate Design.
Livco Water Company Livco Sewer Company ACC Docket No. SW-02563A-05-0820	Permanent Rate Application – Water. Prepared short-form schedules for Rate Base, Income Statement, Plant, Bill Counts, and Rate Design.
Livco Water Company ACC Docket No. SW-02563A-07-0506	Permanent Rate Application – Water and Sewer. Prepared short-form schedules for

COMPANY/CLIENT	FUNCTION
	Rate Base, Income Statement, Plant, Bill Counts, and Rate Design.
Cave Creek Sewer Company	Revenue Requirement, Rate Adjustment and Rate Design - Sewer.
Avra Water Cooperative ACC Docket No. W-02126A-00-0269	Permanent Rate Application – Water. Assisted in preparation of Rate Base, Plant, Income Statement, Revenue Requirement, and Rate Design.
Town of Oro Valley	Revenue Requirements, Water Rate Adjustments and Rate Design.
Far West Water Company ACC Docket No. WS-03478A-99-0144	Permanent Rate Application – Water. Assisted in preparation of schedules for Rate Base, Income Statement, Revenue Requirement, Lead-Lag Study, Cost of Capital, and Rate Design.
MHC Operating Limited Partnership Sedona Venture Wastewater ACC Docket No. W-	Permanent Rate Application – Sewer. Assisted in preparation of schedules for Rate Base, Plant, Income Statement, and Rate Design.
Vail Water Company ACC Docket No. W-01651B-99-0406	Permanent Rate Application. Assisted in preparation of schedules for Rate Base, Plant, Income Statement, and Rate Design.
E&T Water Company ACC Docket No. W-01409A-95-0440	Permanent Rate Application - Water. Assisted in preparation of schedules for Rate Base, Plant, Income Statement, and Rate Design.
New River Utility ACC Docket No. W-01737A-99-0633	Permanent Rate Application - Water. Assisted in preparation of schedules for Rate Base, Plant, Income Statement, and Rate Design.
Golden Shores Water ACC Docket No. W-01815A-98-0645	Permanent Rate Application – Water. Assisted in preparation of schedules for Rate Base, Plant, Income Statement, and Rate Design.
Ponderosa Utility Company	Permanent Rate Application – Water.

COMPANY/CLIENT	FUNCTION
ACC Docket No. W-01717A-99-0572	Assisted in preparation of schedules for Rate Base, Plant, Income Statement, and Rate Design.

Exhibit TJB-2

Blue Chip Financial Forecasts®

Top Analysts' Forecasts Of U.S. And Foreign Interest Rates, Currency Values And The Factors That Influence Them

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Interest Rates Have Peaked Amid Tight Financial Conditions

The Blue Chip Financial Forecasts (BCFF) see an economy that is likely to slow down in coming quarters due to tighter financial conditions. As a result of slowing growth and an accompanying decline in inflation, market yields are likely to continue to fall. The consensus expects that the Fed has completed its tightening cycle and will begin easing in 2024. The economy is expected to avoid a recession as it has shown resilience (especially in the labor market) in the face of policy tightening.

Slowdown ahead. The latest GDP figures for Q3 2023 showed a sizable 5.2% quarter-to-quarter annualized growth rate, but recent data suggest that demand is dwindling. The Atlanta Fed nowcast is currently pointing to a 2.1% pace in Q4. The BCFF consensus looks for an even slower growth rate of 1.2%. Importantly, the consensus expects tepid growth to persist for the entire forecast horizon. The average GDP growth forecast for all of 2024 is 0.7%, with particular weakness in the first three quarters.

In a special question, the median BCFF forecaster puts the odds of recession in the next 12 months at 45%. A significant minority of forecasters (27%) believes that a recession is the most likely path for the economy, and expects two or more consecutive quarterly declines in GDP. The other 73% of panelists expect a slowdown without recession.

Consistent with a soft economic outlook, the consensus projects continued declines in the inflation rate. The PCE inflation rate is expected to slide to 2.2% by midyear 2024, nearly a percentage point lower than the current inflation rate.

Tight financial conditions. Earlier this year, market interest rates had increased to levels not seen since before the 2008 financial crisis. For example, the 10-year Treasury yield nearly reached 5% in October. Rates rose for a variety of reasons including data showing economic resilience, which in turn signaled that the Fed might have to keep rates high for longer than anticipated. High rates have taken a toll on interest-sensitive sectors, such as housing and capital goods expenditures. There is a growing sense that elevated rates have done some of the work for the Fed in slowing the economy. In a special question, BCFF panelists overwhelmingly stated that the rise in rates has tightened financial conditions sufficiently to delay/prevent further interest rate increases.

Indeed, with the funds rate above 5%, inflation subsiding, and Fed asset holdings declining, policy does already seem quite tight. In a special question, panelists estimated that the neutral fed funds rate was 2.9%, which is well below the current funds rate target.

Falling market yields. As a result of tightening financial conditions and the drag on economic activity, the 10-year yield has actually begun to decline, falling by more than 60 basis points in the past month. This decline was aided by better-than-expected inflation news for October, with the CPI posting an unchanged reading for a 3.2% rise year to year. Core CPI rose 0.2% for a 4.0% rise year to year, the lowest reading since August 2021.

The BCFF consensus expectation that both economic growth and inflation will slow significantly in the near term is being reflected in projections for market rates. The slide in rates over the past month is expected to continue over the next six quarters. For example, consensus expectations for the 10-year Treasury yield are for a half-point drop to 4.3% by Q1 2025. At the same time, the 1-year Treasury bill rate is expected to fall by nearly 1.5 percentage points to 4.1%, suggesting a significant steepening of the yield curve and a move away from inversion.

Importantly, the BCFF consensus expects mortgage rates to fall by nearly 1 percentage point over the next six quarters, which could bring much needed relief to the beleaguered housing market. The weakness in the economy is also expected to affect corporate debt somewhat, as panelists look for the spread between corporates and Treasurys to widen slightly.

No more Fed tightening. Policymakers have made a point of leaving the door open to further hikes, even as Fed Chair Powell suggests that the economy may be resistant to higher rates. While supply chains have improved, aiding the decline in inflation, Powell has stated repeatedly that the path to lower inflation involves below-trend growth and softening in the labor market. Conversely, BCFF panelists believe that the Fed is finished hiking rates. In a special question, 100 percent of panelists indicated that the Fed had completed its tightening cycle. Markets agree – the federal funds futures market does not price in any further tightening either.

Funds rate cuts. Against this backdrop, every BCFF panelist expects the Fed to cut the fed funds rate in the forecast horizon. Three-quarters of the panelists believe the Fed will cut rates for the first time either in Q2 or Q3 2024. Respondents seem to be pushing out the timing of the first rate cut – two months ago no panelist thought rate cuts would start after Q3 2024, now 22% do. Still, the BCFF consensus is that the fed funds rate will drop to 4.2% by Q1 2025, with nearly all panelists indicating that Fed easing will be ongoing at that time.

Long-range forecasts. The Blue Chip semi-annual longer-range forecasts show BCFF panelists' views on trend growth, inflation, and interest rates out to 2034. From 2026 on, panelists expect US GDP growth will hover near 2%, which is slightly higher than the CBO estimate of the steady state. They anticipate inflation will subside toward the Fed's target through 2026 and remain there.

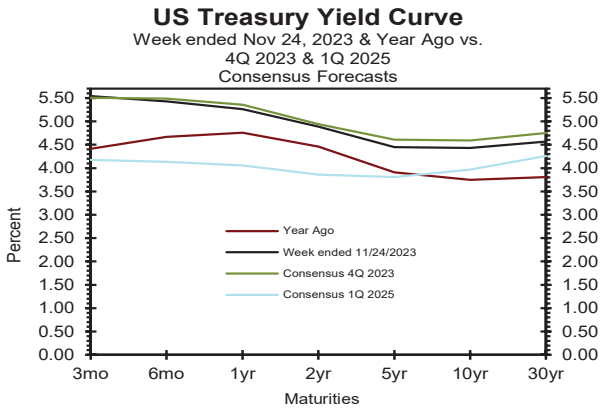
Interest rates are expected to fall but remain elevated relative to pre-pandemic norms. The BCFF consensus looks for the funds rate to drop to 3% by 2028 and remain there. Similarly, the 10-year yield is expected to decline to 3.9% in 2025 and stay there. For comparison, in the decade prior to the latest tightening cycle, the funds rate averaged 0.6% and the 10-year yield averaged 2%. The higher rate projections are consistent with panelists' judgments about the neutral fed funds rate, which is substantially higher than before the pandemic.

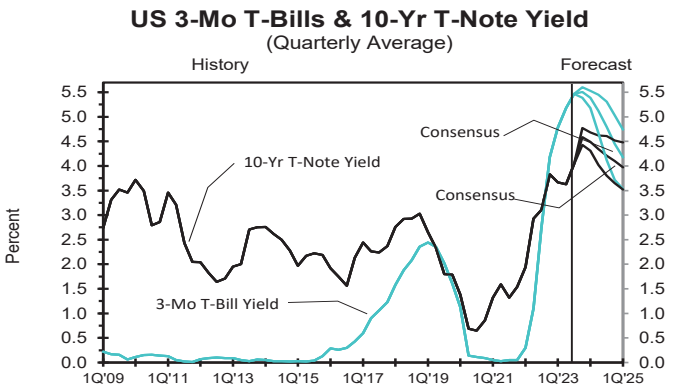
Peter D'Antonio (Haver Analytics, New York, NY)

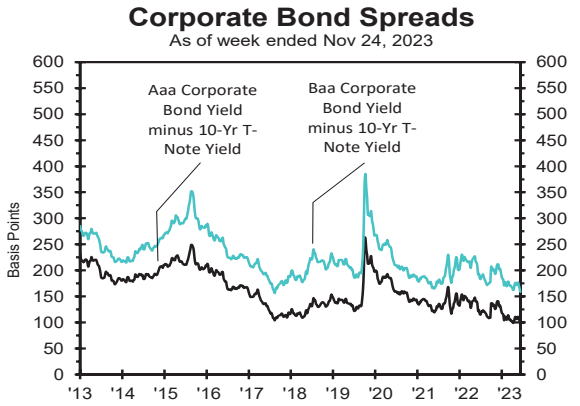
Consensus Forecasts of U.S. Interest Rates and Key Assumptions

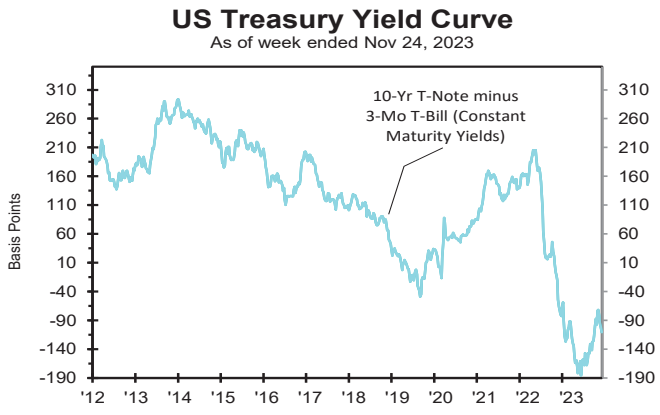
	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month			*Latest Qtr*	4Q	1Q	2Q	3Q	4Q	1Q
Interest Rates	Nov 24	Nov 17	Nov 10	Nov 3	Oct	Sep	Aug	3Q 2023	2023	2024	2024	2024	2024	2025
Federal Funds Rate	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.26	5.4	5.4	5.2	4.9	4.6	4.2
Prime Rate	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.43	8.5	8.5	8.3	8.1	7.7	7.4
SOFR	5.31	5.32	5.32	5.33	5.31	5.31	5.30	5.23	5.4	5.3	5.2	4.9	4.6	4.3
Commercial Paper, 1-mo.	5.33	5.34	5.32	5.33	5.33	5.31	5.30	5.26	5.4	5.4	5.1	4.9	4.5	4.2
Treasury bill, 3-mo.	5.54	5.52	5.54	5.57	5.60	5.56	5.56	5.54	5.5	5.4	5.1	4.8	4.5	4.2
Treasury bill, 6-mo.	5.43	5.41	5.46	5.51	5.57	5.51	5.54	5.53	5.5	5.3	5.1	4.7	4.4	4.1
Treasury bill, 1 yr.	5.26	5.27	5.35	5.38	5.42	5.44	5.37	5.39	5.4	5.2	4.9	4.6	4.3	4.1
Treasury note, 2 yr.	4.89	4.89	4.97	4.97	5.07	5.02	4.90	4.92	4.9	4.8	4.5	4.2	4.0	3.9
Treasury note, 5 yr.	4.45	4.50	4.59	4.69	4.77	4.49	4.31	4.31	4.6	4.5	4.3	4.1	4.0	3.8
Treasury note, 10 yr.	4.43	4.50	4.59	4.75	4.80	4.38	4.17	4.15	4.6	4.5	4.3	4.2	4.1	4.0
Treasury note, 30 yr.	4.57	4.65	4.75	4.93	4.95	4.47	4.28	4.24	4.8	4.7	4.5	4.5	4.4	4.3
Corporate Aaa bond	5.41	5.53	5.66	5.86	5.87	5.38	5.25	5.20	5.5	5.5	5.3	5.3	5.1	5.0
Corporate Baa bond	6.02	6.17	6.31	6.52	6.53	6.03	5.90	5.86	6.4	6.4	6.4	6.3	6.2	6.1
State & Local bonds	4.45	4.55	4.67	4.90	4.88	4.54	4.39	4.38	4.6	4.7	4.6	4.6	4.5	4.4
Home mortgage rate	7.29	7.44	7.50	7.76	7.62	7.20	7.07	7.04	7.4	7.3	7.1	6.9	6.7	6.5
	History								Consensus Forecasts-Quarterly					
	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q
Key Assumptions	2021	2022	2022	2022	2022	2023	2023	2023	2023	2024	2024	2024	2024	2025
Fed's AFE $ Index	106.9	108.3	113.5	118.8	119.8	115.5	114.6	115.1	116.6	116.3	115.9	115.9	115.7	115.7
Real GDP	7.0	-2.0	-0.6	2.7	2.6	2.2	2.1	5.2	1.2	0.7	0.3	0.6	1.2	1.7
GDP Price Index	7.0	8.5	9.1	4.4	3.9	3.9	1.7	3.6	2.7	2.4	2.3	2.2	2.2	2.2
Consumer Price Index	8.8	9.2	9.7	5.5	4.2	3.8	2.7	3.6	2.9	2.5	2.3	2.5	2.3	2.2
PCE Price Index	6.8	7.7	7.2	4.7	4.1	4.2	2.5	2.8	2.6	2.4	2.2	2.3	2.2	2.1

Forecasts for interest rates and the Federal Reserve's Advanced Foreign Economies Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index, CPI and PCE Price Index are seasonally adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch and are 15+ years, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; SOFR from the New York Fed. All interest rate data are sourced from Haver Analytics. Historical data for Fed's Major Currency Index are from FRSR H.10. Historical data for Real GDP, GDP Price Index and PCE Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index history is from the Department of Labor's Bureau of Labor Statistics (BLS).









----------Policy Rates[1]----------

	History			Consensus Forecasts Months From Now:		
	Latest:	Month Ago:	Year Ago:	3	6	12
U.S.	5.38	5.38	3.88	**5.28**	**5.06**	**4.52**
Japan	-0.10	-0.10	-0.10	**-0.08**	**-0.06**	**0.01**
U.K.	5.25	5.25	3.00	**5.25**	**5.01**	**4.25**
Switzerland	1.75	1.75	0.50	**1.78**	**1.72**	**1.55**
Canada	5.00	5.00	3.75	**5.03**	**4.78**	**4.12**
Australia	4.35	4.10	2.85	**4.32**	**4.24**	**3.81**
Euro area	4.50	4.50	2.00	**4.39**	**4.11**	**3.61**

----------10-Yr. Government Bond Yields[2]------

	History			Consensus Forecasts Months From Now:		
	Latest:	Month Ago:	Year Ago:	3	6	12
U.S.	4.47	4.84	3.68	**4.54**	**4.33**	**4.03**
Germany	2.64	2.81	1.97	**2.60**	**2.50**	**2.32**
Japan	0.79	0.88	0.28	**0.88**	**0.86**	**0.90**
U.K.	4.34	4.61	3.26	**4.25**	**4.12**	**3.87**
France	3.20	3.45	2.44	**3.17**	**3.03**	**2.87**
Italy	4.39	4.84	3.85	**4.43**	**4.28**	**4.15**
Switzerland	0.98	1.09	1.01	**1.10**	**1.17**	**1.19**
Canada	3.72	3.98	2.94	**3.78**	**3.52**	**3.37**
Australia	4.55	4.81	3.58	**4.70**	**4.33**	**3.95**
Spain	3.58	3.98	2.82	**3.67**	**3.51**	**3.40**

----------Foreign Exchange Rates[3]----------

	History			Consensus Forecasts Months From Now:		
	Latest:	Month Ago:	Year Ago:	3	6	12
U.S.	115.81	118.73	117.55	**115.9**	**114.9**	**113.6**
Japan	149.57	149.60	139.21	**148.1**	**145.4**	**139.8**
U.K.	1.26	1.22	1.21	**1.24**	**1.24**	**1.26**
Switzerland	0.88	0.90	0.95	**0.90**	**0.89**	**0.88**
Canada	1.36	1.39	1.34	**1.36**	**1.34**	**1.31**
Australia	0.66	0.64	0.68	**0.65**	**0.66**	**0.69**
Euro	1.09	1.06	1.04	**1.08**	**1.09**	**1.11**

	Consensus Policy Rates vs. US Rate			Consensus 10-Year Gov't Yields vs. U.S. Yield	
	Now	In 12 Mo.		Now	In 12 Mo.
Japan	-5.48	**-4.51**	Germany	-1.83	**-1.71**
U.K.	-0.13	**-0.28**	Japan	-3.68	**-3.13**
Switzerland	-3.63	**-2.98**	U.K.	-0.13	**-0.16**
Canada	-0.38	**-0.40**	France	-1.27	**-1.17**
Australia	-1.03	**-0.72**	Italy	-0.08	**0.12**
Euro area	-0.88	**-0.92**	Switzerland	-3.49	**-2.85**
			Canada	-0.75	**-0.66**
			Australia	0.08	**-0.08**
			Spain	-0.89	**-0.63**

Forecasts of panel members are on pages 10 and 11. Definitions of variables are as follows: [1]Monetary policy rates. [2]Government bonds are yields to maturity. [3]Foreign exchange rate forecasts for U.K., Australia and the Euro are U.S. dollars per currency unit. For the U.S dollar, forecasts are of the U.S. Federal Reserve Board's AFE Dollar Index.

International. Growing conviction that central banks have concluded their tightening cycles has fueled a rally in both bond and equity markets over the past few weeks. That conviction has been bolstered by a number of factors. First, global inflationary pressures have continued to diminish, in large part because of weaker energy prices. And, notwithstanding the recent instability in the Middle East, oil prices have continued to decline over the past two months, which has further eased concerns that this trend toward weaker inflation might stall. Second, there is growing evidence to suggest that higher interest rates are taking a heavier toll on global economic activity, evidence that's particularly compelling in the euro area and the UK. Lastly, the latest policy decisions and accompanying statements from various central banks - including the Fed, the ECB, and the BoE - indicate a growing consensus among policymakers that further tightening may not be necessary.

This month's survey of Blue Chip Financial Forecasters aligns with that narrative. The policy rate projections for the US, Canada, Europe, and Australia, for example, indicate a broadly shared consensus that tightening cycles have reached their conclusion. And that corresponds too with the responses to a special question, where approximately 90% of panelists believe the ECB and BoE have completed their tightening cycles with that proportion rising to 100% for the Fed.

Closer scrutiny of these policy rate projections further reveals that easing cycles are now expected to commence in the euro area, Switzerland, Australia, the UK as well as the US within the next 6 months. Financial futures contracts, moreover, indicate that investors believe that easing campaigns could potentially begin even earlier. Those views do not, however, chime with the messages from central banks in recent weeks. Even the more dovish members of most central banks' policy committees have staunchly opposed these views over the last few weeks.

That dichotomy of views could reflect a more downbeat view from our panelists about the outlook for growth and inflation next year compared with the expectations of central banks. In response to another special question, for example, 55% of our panelists expect a euro area recession over the next 12 months while 58% expect a UK recession. As noted above, moreover, downbeat views about the growth outlook – and euro area growth in particular - have been validated of late by much of the incoming data. The flash PMI surveys for November, for example, reveal ongoing contractions in the manufacturing sector in the euro area, UK, Japan and the US.

Still, those recession odds for Europe and downbeat data points for manufacturing have not been amplified elsewhere. For example, only 44% of our panelists now anticipate a US recession phase over the next 12 months, down a little from 47% in our last survey. Those same flash PMI surveys for November, in the meantime, suggest that activity has held up quite well in the service sector in the US, UK and Japan.

Against this backdrop, investors are likely to be alert to how this dichotomy of views is resolved. Will the incoming data for both growth and inflation disappoint to the downside and thereby validate the consensus view that easing cycles will shortly commence? Alternatively, will growth and hold up and thereby challenge the dovish Blue Chip consensus but at the same time validate the more hawkish central bank consensus?

However, the outlook for the world economy and financial markets will not solely hinge on these considerations. Economic developments in Asia will also be closely watched. In response to another special question, 74% of our panelists believe the situation in China poses significant risks to global growth. Moreover, Japan's economic outlook could wield considerable influence over global financial stability as well. There is ample speculation in particular about if and when the BoJ will start to normalize its monetary policy. In a final special question this month, for example, 62% of our panelists expect that an interest rate normalization campaign could begin before the middle of 2024.

Fourth Quarter 2023

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter: Short-Term: 1 Federal Funds Rate	2 Prime Bank Rate	3 SOFR Rate	4 Com. Paper 1-Mo.	5 Treas. Bills 3-Mo.	6 Treas. Bills 6-Mo.	7 Treas. Bills 1-Yr.	Intermediate-Term: 8 Treas. Notes 2-Yr.	9 Treas. Notes 5-Yr.	10 Treas. Notes 10-Yr.	Long-Term: 11 Treas. Bond 30-Yr.	12 Aaa Corp. Bond	13 Baa Corp. Bond	14 State & Local Bonds	15 Home Mtg. Rate	Avg. For Qtr. A. Fed's Adv Fgn Econ $ Index	(Q-Q % Change) (SAAR): B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index
Scotiabank Group	5.5 H	na	5.3 L	na	5.5	na	na	5.2 H	5.0 H	5.0 H	5.1 H	na	na	na	na	na	0.2 L	1.5 L	4.7 H	4.7 H
TS Lombard	5.5 H	8.6 H	5.4	5.5	5.4	5.5	5.1 L	4.7 L	4.3	4.4	4.5	5.2	6.1	4.4	6.2 L	115.0	1.5	3.6 H	3.6	3.6
Bank of America	5.4	na	na	na	na	na	na	4.9	4.7	4.5	4.8	na	na	na	na	na	1.5	2.7	2.6	2.5
BMO Capital Markets	5.4	8.5	5.3 L	5.4	5.6 H	5.5	5.3	4.9	4.6	4.6	4.7	5.5	6.6	5.1	7.5	117.8	0.9	2.2	2.8	2.3
Chan Economics	5.4	8.4 L	5.3 L	5.3 L	5.4	5.5	5.3	4.8	4.3	4.4	4.6	5.6	6.6	5.0	7.2	115.0	1.5	2.7	2.9	2.6
Comerica Bank	5.4	8.6 H	5.4	na	5.4	5.5	5.3	4.9	4.7	4.7	4.9	5.6	6.6	na	7.7	na	0.7	2.4	2.4	2.4
Daiwa Capital Markets America	5.4	8.5	na	na	5.3 L	na	na	4.9	4.5	4.5	4.7	na	na	na	7.3	117.0	1.0	2.6	3.0	3.3
Fannie Mae	5.4	8.5	na	na	5.5	5.5	5.3	4.9	4.5	4.5	4.7	na	na	na	7.3	na	1.1	2.9	2.4	2.4
Georgia State University	5.4	8.5	na	na	5.5	5.4	5.5	5.0	4.7	4.6	4.8	5.5	6.6	na	7.6	na	1.1	2.6	2.8	2.6
GLC Financial Economics	5.4	8.5	5.4	5.4	5.5	5.4	5.3	4.8	4.5	4.4	4.6	5.2	6.0 L	4.2	6.8	117.1	0.7	3.6 H	2.4	2.0
Goldman Sachs & Co.	5.4	na	na	na	5.6 H	na	na	5.0	4.7	4.8	4.4	na	na	na	na	na	1.9	1.8	2.6	2.1
ING	5.4	na	na	na	na	na	na	4.8	4.5	4.5	4.6	na	na	na	na	na	1.9	na	na	na
J.P. Morgan Chase	5.4	na	na	na	na	na	na	4.7 L	4.2 L	4.1 L	4.3 L	na	na	na	na	na	2.0 H	3.0	2.9	2.4
KPMG	5.4	8.5	5.4	5.4	5.6 H	5.6	5.5	5.1	4.7	4.7	4.8	5.6	6.7	na	7.6	na	1.1	2.9	2.8	2.6
MacroPolicy Perspectives	5.4	8.5	5.3 L	5.4	5.6 H	5.5	5.4	5.0	4.7	4.5	4.8	5.1 L	6.0 L	4.5	7.3	116.1	1.5	2.5	3.1	2.1
Nomura Securities, Inc.	5.4	8.5	na	na	na	na	na	4.9	4.6	4.6	na	na	na	na	na	na	0.9	1.9	2.8	2.4
Oxford Economics	5.4	8.5	5.4	na	5.6 H	5.6	5.4	5.1	4.7	4.7	4.9	5.3	na	na	7.6	118.8 H	1.0	2.7	4.3	3.3
RDQ Economics	5.4	8.5	5.4	5.8 H	5.5	5.5	5.2	4.9	4.7	4.6	4.7	5.5	6.3	4.7	7.4	116.9	1.5	3.2	3.0	2.8
S&P Global Market Intelligence	5.4	8.5	5.4	na	5.5	5.4	5.5	5.1	4.7	4.7	4.9	na	na	na	7.6	na	1.1	2.9	2.8	2.6
The Lonski Group	5.4	8.5	5.3 L	5.4	5.5	5.5	5.2	4.9	4.6	4.6	4.7	5.6	6.3	4.6	7.4	117.0	1.1	2.6	2.9	3.5
The Northern Trust Company	5.4	8.5	5.3 L	5.4	5.6 H	5.5	5.4	5.0	4.6	4.6	4.8	5.4	6.4	4.7	7.5	117.5	0.8	2.3	3.2	2.9
Wells Fargo	5.4	8.5	5.4	5.4	5.4	5.4	5.2	4.8	4.5	4.5	4.7	5.7	6.7	5.1	7.5	na	0.7	2.7	3.4	2.7
Action Economics	5.3 L	8.5	5.7 H	5.4	5.5	5.5	5.4	5.0	4.8	4.9	5.0	5.7	6.7	4.5	8.0 H	115.1	1.6	2.2	2.2	1.4 L
Barclays	5.3 L	na	na	na	5.4	na	na	na	na	na	na	na	na	na	na	na	1.5	2.8	2.9	2.7
Chmura Economics & Analytics	5.3 L	8.5	5.3 L	5.4	5.6 H	5.5	5.4	5.0	4.6	4.6	4.8	5.4	na	na	7.5	na	1.7	3.3	3.3	3.1
DePrince & Assoc.	5.3 L	8.5	5.4	5.4	5.6 H	5.5	5.4	5.0	4.6	4.6	4.8	5.4	6.4	4.3	7.5	116.7	1.1	3.0	3.3	3.1
Economist Intelligence Unit	5.3 L	8.5	na	5.4	5.6 H	5.5	5.3	5.1	4.7	4.5	4.8	na	na	na	7.5	na	0.6	na	2.9	na
EY-Parthenon	5.3 L	na	na	na	5.4	na	na	na	na	4.6	na	na	na	na	na	na	1.3	2.7	2.5	2.1
Loomis, Sayles & Company	5.3 L	8.5	5.3 L	5.3 L	5.5	5.5	5.3	5.0	4.6	4.5	4.7	5.3	6.3	4.6	7.4	117.2	1.1	2.9	2.9	2.6
MacroFin Analytics & Rutgers Bus School	5.3 L	8.5	5.3 L	5.4	5.5	5.4	5.4	4.9	4.4	4.5	4.6	5.5	6.0 L	4.5	7.4	115.8	1.2	3.3	3.3	2.7
Moody's Analytics	5.3 L	8.5	5.3 L	5.4	5.3 L	5.3 L	5.3	5.1	4.8	4.7	5.0	5.8	6.8 H	4.4	7.7	na	0.8	2.7	3.2	3.1
NatWest Markets	5.3 L	na	na	5.4	5.6 H	5.7 H	5.8 H	4.8	4.5	4.5	4.8	5.8	6.7	5.2 H	7.0	na	1.0	2.2	2.5	2.2
PNC Financial Services Corp.	5.3 L	8.5	5.3 L	na	5.4	5.5	5.4	5.0	4.7	4.6	4.8	na	6.5	4.1	7.5	114.6 L	1.4	2.7	2.4	2.1
Regions Financial Corporation	5.3 L	8.5	5.3 L	5.4	5.5	5.5	5.3	4.9	4.6	4.6	4.7	5.6	6.4	4.7	7.4	117.3	0.6	2.7	2.9	2.7
Santander Capital Markets	5.3 L	8.5	5.3 L	5.4	5.6 H	5.5	5.3	4.9	4.6	4.6	4.8	5.4	6.4	3.9 L	7.5	116.8	1.9	3.0	2.6	2.5
Societe Generale	5.3 L	8.5	5.3 L	na	5.5	5.5	5.3	4.9	4.6	4.6	4.7	na	na	na	na	na	1.6	2.7	2.7	2.0
Via Nova Investment Mgt.	5.3 L	8.5	5.3 L	5.3 L	5.6 H	5.5	5.5	5.1	4.8	4.9	5.0	6.0 H	6.6	4.9	7.7	117.6	2.0 H	2.2	2.1 L	2.0
December Consensus	**5.4**	**8.5**	**5.4**	**5.4**	**5.5**	**5.5**	**5.4**	**4.9**	**4.6**	**4.6**	**4.8**	**5.5**	**6.4**	**4.6**	**7.4**	**116.6**	**1.2**	**2.7**	**2.9**	**2.6**
Top 10 Avg.	5.4	8.5	5.4	5.5	5.6	5.5	5.5	5.1	4.8	4.8	4.9	5.7	6.7	4.9	7.7	117.4	1.8	3.2	3.5	3.3
Bottom 10 Avg.	5.3	8.5	5.3	5.4	5.4	5.4	5.3	4.8	4.4	4.4	4.6	5.3	6.2	4.3	7.1	115.9	0.7	2.1	2.4	2.0
November Consensus	5.4	8.5	5.4	5.4	5.5	5.5	5.4	5.0	4.7	4.7	4.8	5.6	6.6	4.8	7.5	117.6	0.9	2.7	3.2	2.9
Number of Forecasts Changed From A Month Ago:																				
Down	8	4	4	4	13	16	12	18	20	20	17	13	12	14	17	11	9	15	21	19
Same	29	24	21	16	16	8	13	12	8	6	7	3	4	5	2	4	9	5	5	8
Up	0	1	0	1	4	4	3	5	7	10	10	7	6	0	9	3	19	15	10	8
Diffusion Index	39%	45%	42%	43%	36%	29%	34%	31%	31%	36%	40%	37%	36%	13%	36%	28%	64%	50%	35%	34%

First Quarter 2024

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter: Short-Term: 1 Federal Funds Rate	2 Prime Bank Rate	3 SOFR Rate	4 Com. Paper 1-Mo.	5 Treas. Bills 3-Mo.	6 Treas. Bills 6-Mo.	7 Treas. Bills 1-Yr.	Intermediate-Term: 8 Treas. Notes 2-Yr.	9 Treas. Notes 5-Yr.	10 Treas. Notes 10-Yr.	Long-Term: 11 Treas. Bond 30-Yr.	12 Aaa Corp. Bond	13 Baa Corp. Bond	14 State & Local Bonds	15 Home Mtg. Rate	Avg. For ---Qtr.--- A. Fed's Adv Fgn Econ $ Index	(Q-Q % Change) (SAAR): B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index
S&P Global Market Intelligence	5.6 H	8.7 H	5.6	na	5.6 H	5.5	5.6	5.1 H	4.7	4.6	4.8	na	na	na	7.5	na	0.9	2.4	1.9	1.9
J.P. Morgan Chase	5.5	na	na	na	na	na	na	4.8	4.4	4.4	4.6	na	na	na	na	na	1.3	1.9	2.1	1.7
Scotiabank Group	5.5	na	5.3	na	5.4	na	na	4.4	4.2	4.5	4.6	na	na	na	na	na	0.0	1.6 L	2.3	2.6
Bank of America	5.4	na	na	na	na	na	na	4.8	4.5	4.4	4.7	na	na	na	na	na	0.5	3.1	3.2	3.1
BMO Capital Markets	5.4	8.5	5.3	5.4	5.5	5.4	5.1	4.6	4.4	4.4	4.6	5.4	6.5	5.0	7.4	117.2	0.2	2.7	3.2	3.0
Chan Economics	5.4	8.4	5.3	5.3	5.4	5.5	5.3	4.8	4.3	4.4	4.6	5.6	6.6	5.0	7.2	114.7	1.0	2.6	2.8	2.4
Chmura Economics & Analytics	5.4	8.5	5.4	5.4	5.5	5.5	5.4	4.9	4.6	4.6	4.7	5.4	na	na	7.6	na	0.3	3.0	3.0	2.9
Comerica Bank	5.4	8.6	5.4	na	5.4	5.4	5.1	4.5	4.4	4.5	4.7	5.4	6.3	na	7.3	na	0.5	2.2	2.4	2.5
Daiwa Capital Markets America	5.4	8.5	na	na	5.3	na	na	4.5	4.1 L	4.3	4.4 L	na	na	na	7.1	116.0	-1.0 L	2.6	2.6	2.5
DePrince & Assoc.	5.4	8.5	5.4	5.4	5.5	5.4	5.3	4.9	4.6	4.6	4.7	5.5	6.5	4.6	7.3	117.2	0.7	2.7	2.9	2.7
GLC Financial Economics	5.4	8.5	5.4	5.3	5.4	5.2	5.0	4.5	4.7	4.6	4.7	5.4	6.2	4.4	6.7	116.9	1.3	3.5 H	2.8	2.4
Goldman Sachs & Co.	5.4	na	na	na	5.5	na	na	5.0	4.7	4.8 H	4.7	na	na	na	na	na	1.8	2.3	2.7	2.4
ING	5.4	na	na	na	na	na	na	4.5	4.2	4.3	4.5	na	na	na	na	na	0.0	na	na	na
KPMG	5.4	8.5	5.4	5.3	5.5	5.6	5.5	5.0	4.7	4.6	4.7	5.5	6.6	na	7.5	na	0.8	2.4	1.9	1.9
MacroPolicy Perspectives	5.4	8.5	5.3	na	na	na	na	4.7	4.3	4.5	na	na	na	na	7.2	na	1.2	2.0	1.8	1.6
Nomura Securities, Inc.	5.4	8.5	na	na	na	na	na	4.8	4.5	4.5	na	na	na	na	na	na	1.3	1.6 L	2.5	2.2
Oxford Economics	5.4	8.5	5.4	na	5.6 H	5.5	5.4	5.0	4.6	4.6	4.8	5.3	na	na	7.5	119.4 H	0.0	2.6	2.9	2.5
RDQ Economics	5.4	8.5	5.4	6.0 H	5.3	5.2	4.9	4.7	4.6	4.6	4.6	5.8	6.6	4.7	7.3	117.3	0.5	3.0	3.4 H	3.2 H
The Northern Trust Company	5.4	8.5	5.3	5.4	5.5	5.4	5.4	5.0	4.8	4.7	5.0 H	5.6	6.6	4.9	7.6	116.0	0.9	2.3	2.8	2.6
Wells Fargo	5.4	8.5	5.4	5.4	5.2	5.1	4.7	4.4	4.2	4.3	4.6	5.5	6.5	4.9	7.2	na	0.9	2.5	2.9	2.5
Action Economics	5.3	8.5	5.8 H	5.4	5.5	5.4	5.3	4.9	4.7	4.7	4.8	5.6	6.6	4.5	7.8 H	118.4	0.6	1.8	1.9	1.4 L
Barclays	5.3	na	na	na	5.4	na	na	5.0	4.7	4.8 H	5.0 H	na	na	na	na	na	1.0	3.1	2.9	3.0
Economist Intelligence Unit	5.3	8.5	na	5.4	5.5	5.4	5.1	5.0	4.7	4.6	4.8	na	na	na	7.5	na	-0.9	na	2.3	na
EY-Parthenon	5.3	na	na	na	5.0	na	na	na	na	4.2 L	na	na	na	na	na	na	-0.1	2.5	2.5	2.2
Fannie Mae	5.3	8.4	na	na	5.3	5.3	5.0	4.7	4.3	4.4	4.5	na	na	na	7.0	na	0.1	2.2	1.8	1.8
Georgia State University	5.3	8.4	na	na	5.4	5.2	5.2	4.8	4.5	4.5	4.7	5.4	6.6	na	7.4	na	0.3	2.3	1.9	1.9
Loomis, Sayles & Company	5.3	8.5	5.3	5.3	5.5	5.5	5.3	5.0	4.6	4.5	4.7	5.3	6.3	4.6	7.3	116.8	1.5	2.1	1.7 L	1.6
MacroFin Analytics & Rutgers Bus School	5.3	8.5	5.3	5.4	5.3	5.4	5.4	4.8	4.4	4.4	4.5	5.4	5.9 L	4.4	7.2	115.7	1.0	2.5	2.8	2.6
Moody's Analytics	5.3	8.5	5.3	5.3	5.1	5.1	5.0	4.8	4.5	4.3	4.7	5.7	6.7	4.4	7.1	na	1.1	2.1	2.7	2.4
NatWest Markets	5.3	na	na	5.4	5.6 H	5.7 H	5.8 H	4.5	4.3	4.4	4.7	5.7	6.6	5.1	6.9	na	1.3	1.6 L	2.2	1.9
PNC Financial Services Corp.	5.3	8.5	5.3	na	5.3	5.4	5.2	4.9	4.7	4.5	4.6	na	6.9 H	5.3 H	7.4	115.0	0.4	2.2	1.8	1.8
Regions Financial Corporation	5.3	8.5	5.3	5.4	5.5	5.4	5.2	4.8	4.4	4.4	4.6	5.3	6.3	4.6	7.2	116.5	0.4	2.4	2.8	2.9
Santander Capital Markets	5.3	8.5	5.3	5.4	5.5	5.4	5.2	4.9	4.5	4.6	4.8	5.4	6.4	4.0 L	7.4	116.0	1.2	3.1	2.8	2.6
Societe Generale	5.3	8.5	5.3	na	5.3	5.1	4.7	4.2 L	4.3	4.3	4.5	na	na	na	na	na	0.5	1.8	2.2	2.2
The Lonski Group	5.3	8.5	5.3	5.4	5.5	5.3	5.0	4.8	4.5	4.3	4.5	5.4	6.1	4.5	7.2	117.9	0.4	2.2	2.3	2.6
Via Nova Investment Mgt.	5.3	8.5	5.4	5.4	5.3	5.3	5.3	4.9	4.9 H	4.8 H	4.9	5.9 H	6.5	4.8	7.6	116.0	2.5 H	2.1	2.1	2.1
TS Lombard	4.8 L	7.9 L	4.8 L	4.8 L	4.7 L	4.8 L	4.5 L	4.3	4.2	4.3	4.4 L	5.1 L	6.0	4.3	6.1 L	110.0 L	0.2	3.2	3.2	3.2 H
December Consensus	**5.4**	**8.5**	**5.3**	**5.4**	**5.4**	**5.3**	**5.2**	**4.8**	**4.5**	**4.5**	**4.7**	**5.5**	**6.4**	**4.7**	**7.3**	**116.3**	**0.7**	**2.4**	**2.5**	**2.4**
Top 10 Avg.	5.4	8.5	5.5	5.5	5.5	5.5	5.4	5.0	4.7	4.7	4.8	5.6	6.6	4.9	7.5	117.4	1.5	3.0	3.0	2.9
Bottom 10 Avg.	5.3	8.4	5.3	5.3	5.2	5.2	4.9	4.4	4.2	4.3	4.5	5.3	6.3	4.4	7.0	115.3	-0.1	1.9	1.9	1.8
November Consensus	5.4	8.5	5.4	5.4	5.4	5.4	5.2	4.8	4.5	4.5	4.7	5.5	6.5	4.8	7.3	118.0	0.3	2.4	2.5	2.4
Number of Forecasts Changed From A Month Ago:																				
Down	10	7	7	6	12	10	10	14	12	14	12	12	11	13	13	11	10	14	11	12
Same	25	19	17	9	13	11	13	15	13	10	11	3	3	2	6	3	12	9	8	11
Up	2	3	1	5	7	6	4	7	11	13	11	7	7	3	9	3	15	12	17	12
Diffusion Index	39%	43%	38%	48%	42%	43%	39%	40%	49%	49%	49%	39%	40%	22%	43%	26%	57%	47%	58%	50%

Second Quarter 2024

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter: Short-Term: 1 Federal Funds Rate	2 Prime Bank Rate	3 SOFR Rate	4 Com. Paper 1-Mo.	5 Treas. Bills 3-Mo.	6 Treas. Bills 6-Mo.	7 Treas. Bills 1-Yr.	Intermediate-Term: 8 Treas. Notes 2-Yr.	9 Treas. Notes 5-Yr.	10 Treas. Notes 10-Yr.	Long-Term: 11 Treas. Bond 30-Yr.	12 Aaa Corp. Bond	13 Baa Corp. Bond	14 State & Local Bonds	15 Home Mtg. Rate	Avg. For Qtr.: A. Fed's Adv Fgn Econ $ Index	(Q-Q % Change) (SAAR): B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index
S&P Global Market Intelligence	5.6 H	8.7 H	5.5	na	5.4	5.2	5.2	4.8	4.4	4.4	4.6	na	na	na	7.2	na	0.1	2.9	2.8	2.6
J.P. Morgan Chase	5.5	na	na	na	na	na	na	4.6	4.3	4.4	4.7	na	na	na	na	na	0.5	2.0	1.9	1.5
Action Economics	5.4	8.5	5.8 H	5.4	5.5	5.3	5.1	4.8	4.6	4.6	4.7	5.4	6.4	4.4	7.7 H	118.7	1.0	1.9	2.3	1.7
BMO Capital Markets	5.4	8.5	5.3	5.4	5.5	5.4	5.0	4.3	4.3	4.3	4.5	5.4	6.5	5.0	7.3	117.2	0.8	2.2	2.4	2.3
Chan Economics	5.4	8.4	5.3	5.3	5.4	5.5 H	5.3 H	4.8	4.3	4.4	4.6	5.6	6.6	5.0	7.2	114.8	0.5	2.6	2.8	2.4
Goldman Sachs & Co.	5.4	na	na	na	5.3	na	na	4.9	4.6	4.7	4.7	na	na	na	na	na	1.6	2.2	2.3	2.3
Nomura Securities, Inc.	5.4	8.5	na	na	na	na	na	4.6	4.4	4.5	na	na	na	na	na	na	1.4	1.5	2.2	1.9
Oxford Economics	5.4	8.5	5.4	na	5.6 H	5.5 H	5.3 H	5.0 H	4.4	4.4	4.7	5.2	na	na	7.3	119.0 H	0.0	2.2	2.3	2.2
RDQ Economics	5.4	8.5	5.4	5.9 H	5.3	5.2	4.8	4.5	4.5	4.5	4.5	5.9 H	7.0	4.7	7.1	116.4	-1.1	3.1	3.4 H	3.2 H
The Northern Trust Company	5.4	8.5	5.3	5.5	5.4	5.4	5.3 H	4.7	4.7 H	4.7	5.0 H	5.7	6.8	5.0	7.5	115.0	1.1	2.2	2.5	2.4
Barclays	5.3	na	na	na	5.4	na	na	4.9	4.6	4.7	4.9	na	na	na	na	na	0.0	2.4	1.8	2.2
Chmura Economics & Analytics	5.3	8.4	5.3	5.3	5.3	5.4	5.3 H	4.9	4.6	4.8 H	4.8	5.5	na	na	7.7 H	na	0.5	3.1	2.9	2.6
Comerica Bank	5.3	8.5	5.3	na	5.3	5.2	4.8	4.1	4.1	4.2	4.5	5.2	6.1	na	6.8	na	1.0	2.1	2.0	2.2
Economist Intelligence Unit	5.3	8.5	na	5.3	5.3	5.2	4.9	4.8	4.5	4.5	4.6	na	na	na	7.3	na	0.5	na	2.3	na
EY-Parthenon	5.3	na	na	na	4.9	na	na	na	na	4.0	na	na	na	na	na	na	0.8	2.3	2.0	2.1
KPMG	5.3	8.5	5.3	5.1	5.3	5.3	5.1	4.7	4.3	4.3	4.4	5.1	6.3	na	7.1	na	0.5	2.9	2.7	2.6
Loomis, Sayles & Company	5.3	8.5	5.3	5.3	5.5	5.5 H	5.3 H	5.0 H	4.6	4.5	4.7	5.3	6.3	4.6	7.2	116.8	1.1	2.5	2.1	1.9
Moody's Analytics	5.3	8.5	5.3	5.2	5.0	4.9	4.8	4.7	4.4	4.2	4.7	5.6	6.7	4.3	6.8	na	1.2	2.0	2.6	2.5
PNC Financial Services Corp.	5.3	8.5	5.3	na	5.3	5.2	5.1	4.8	4.7 H	4.6	4.7	na	7.1 H	5.9 H	7.3	117.2	-0.8	2.1	1.7	1.7
Regions Financial Corporation	5.3	8.5	5.3	5.3	5.4	5.4	5.1	4.5	4.3	4.2	4.4	5.2	6.2	4.5	7.0	116.1	1.0	2.7	3.1	3.0
Santander Capital Markets	5.3	8.5	5.3	5.4	5.4	5.3	5.1	4.9	4.5	4.5	4.7	5.4	6.5	3.9 L	7.2	115.5	1.1	2.9	2.9	2.6
Scotiabank Group	5.3	na	5.1	na	5.0	na	na	3.9	3.9	4.2	4.3	na	na	na	na	na	0.2	0.8 L	1.7	1.5
DePrince & Assoc.	5.2	8.3	5.3	5.2	5.3	5.3	5.2	4.9	4.6	4.6	4.7	5.6	6.6	4.8	7.1	117.6	1.0	2.6	2.8	2.6
MacroFin Analytics & Rutgers Bus School	5.2	8.4	5.1	5.3	5.2	5.3	5.1	4.8	4.2	4.4	4.5	5.2	5.8	4.3	7.1	115.5	1.0	2.3	2.5	2.5
MacroPolicy Perspectives	5.2	8.4	5.1	na	na	na	na	4.5	4.3	4.5	na	na	na	na	7.1	na	1.5	1.8	1.5	1.4
Bank of America	5.1	na	na	na	na	na	na	4.5	4.4	4.3	4.7	na	na	na	na	na	0.5	2.6	2.8	2.5
Daiwa Capital Markets America	5.1	8.3	na	na	4.9	na	na	4.1	3.7 L	3.9	4.2	na	na	na	6.6	116.0	-1.4	2.5	2.5	2.4
Fannie Mae	5.1	8.3	na	na	5.1	5.0	4.8	4.5	4.3	4.3	4.5	na	na	na	6.9	na	-1.5	2.6	2.0	2.1
GLC Financial Economics	5.1	8.2	5.1	5.0	5.0	4.8	4.7	4.2	4.3	4.3	4.5	5.1	6.1	4.3	6.4	113.3	1.2	2.9	2.6	2.2
Societe Generale	5.1	8.3	5.1	na	4.9	4.6	4.1	3.5 L	3.7 L	3.8 L	4.1 L	na	na	na	na	na	-1.8	1.8	2.2	2.0
Wells Fargo	5.1	8.3	5.1	5.1	4.8	4.4	3.9	3.7	3.7 L	3.9	4.2	5.1	6.1	4.5	6.7	na	-0.3	1.3	1.0 L	1.3 L
Via Nova Investment Mgt.	5.0	8.3	5.1	5.1	5.0	5.0	5.0	4.6	4.6	4.5	4.6	5.6	6.2	4.5	7.3	114.0	2.5 H	2.1	2.1	2.1
ING	4.9	na	na	na	na	na	na	4.1	4.0	4.0	4.4	na	na	na	na	na	-2.0 L	na	na	na
The Lonski Group	4.9	8.1	4.9	4.9	4.7	4.7	4.5	4.4	4.2	4.0	4.1 L	5.1	6.0	4.2	6.9	118.5	0.0	2.3	2.2	2.3
Georgia State University	4.5	7.6	na	na	4.5	4.2	4.1	3.9	4.0	4.3	4.4	5.2	6.3	na	7.2	na	-0.5	2.8	2.7	2.6
NatWest Markets	4.3	na	na	4.4	4.6	4.7	4.8	3.6	3.8	4.3	4.7	5.2	6.1	4.9	6.7	na	-1.5	1.8	1.1	1.8
TS Lombard	3.5 L	6.6 L	3.5 L	3.5 L	3.4 L	3.5 L	3.6 L	3.8	3.9	4.0	4.1 L	4.9 L	5.7 L	4.0	5.8 L	108.0 L	0.4	3.2 H	3.2	3.2 H
December Consensus	**5.2**	**8.3**	**5.2**	**5.1**	**5.1**	**5.1**	**4.9**	**4.5**	**4.3**	**4.3**	**4.5**	**5.3**	**6.4**	**4.6**	**7.1**	**115.9**	**0.3**	**2.3**	**2.3**	**2.2**
Top 10 Avg.	5.4	8.5	5.4	5.4	5.5	5.4	5.2	4.9	4.6	4.6	4.8	5.6	6.7	4.9	7.4	117.4	1.4	2.9	2.9	2.8
Bottom 10 Avg.	4.8	8.0	4.9	4.9	4.7	4.6	4.4	3.9	3.9	4.0	4.3	5.1	6.1	4.3	6.7	114.5	-1.1	1.7	1.7	1.7
November Consensus	5.2	8.4	5.3	5.2	5.2	5.1	4.9	4.5	4.3	4.3	4.5	5.4	6.4	4.6	7.1	117.2	0.3	2.3	2.4	2.2
Number of Forecasts Changed From A Month Ago:																				
Down	12	7	8	8	13	11	12	14	14	11	12	10	10	9	12	11	13	5	10	6
Same	21	17	14	9	14	9	10	14	13	13	11	7	6	7	6	3	12	14	13	18
Up	4	5	3	3	5	7	5	8	9	13	11	5	5	2	10	3	12	16	13	11
Diffusion Index	39%	47%	40%	38%	38%	43%	37%	42%	43%	53%	49%	39%	38%	31%	46%	26%	49%	66%	54%	57%

Third Quarter 2024

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter: 1 Federal Funds Rate	2 Prime Bank Rate	3 SOFR Rate	4 Com. Paper 1-Mo.	5 Treas. Bills 3-Mo.	6 Treas. Bills 6-Mo.	7 Treas. Bills 1-Yr.	8 Treas. Notes 2-Yr.	9 Treas. Notes 5-Yr.	10 Treas. Notes 10-Yr.	11 Treas. Bond 30-Yr.	12 Aaa Corp. Bond	13 Baa Corp. Bond	14 State & Local Bonds	15 Home Mtg. Rate	A. Fed's Adv Fgn Econ $ Index	B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index
	Short-Term							Intermediate-Term			Long-Term					Avg. For Qtr.	(Q-Q % Change) (SAAR)			
Chan Economics	5.4 H	8.4	5.3	5.3	5.4	5.5 H	5.3 H	4.8	4.3	4.4	4.6	5.6	6.6	5.0	7.2	114.5	0.3	2.4	2.6	2.2
Goldman Sachs & Co.	5.4 H	na	na	na	5.0	na	na	4.8	4.6	4.6	4.6	na	na	na	na	na	1.7	2.3	2.4	2.3
J.P. Morgan Chase	5.4 H	na	na	na	na	na	na	4.3	4.1	4.2	4.6	na	na	na	na	na	0.5	2.5	2.7	2.3
Oxford Economics	5.4 H	8.5 H	5.4	na	5.5 H	5.4	5.2	4.8	4.0	4.3	4.6	4.6 L	na	na	7.1	117.7	0.5	2.3	2.2	2.2
Action Economics	5.3	8.4	5.8 H	5.3	5.3	5.1	4.9	4.7	4.5	4.5	4.7	5.4	6.4	4.3	7.6	118.8	1.3	1.4 L	2.4	1.7
Barclays	5.3	na	na	na	5.3	na	na	4.6	4.4	4.5	4.7	na	na	na	na	na	-0.5	2.8	2.6	2.6
BMO Capital Markets	5.3	8.4	5.3	5.3	5.5 H	5.4	4.9	4.1	4.1	4.2	4.4	5.4	6.5	5.0	7.2	117.4	1.3	2.2	2.4	2.2
Loomis, Sayles & Company	5.3	8.5 H	5.3	5.3	5.5 H	5.5 H	5.3 H	5.0	4.6	4.5	4.7	5.3	6.3	4.6	7.1	116.7	-1.5	1.9	1.2 L	1.2 L
Regions Financial Corporation	5.3	8.5 H	5.3	5.2	5.2	5.1	4.9	4.3	4.2	4.1	4.4	5.2	6.2	4.5	6.8	115.7	1.2	2.4	2.4	2.6
S&P Global Market Intelligence	5.3	8.4	5.3	na	5.1	4.8	4.8	4.4	4.1	4.2	4.4	na	na	na	6.8	na	1.1	2.5	3.3	2.7
Santander Capital Markets	5.3	8.5 H	5.3	5.3	5.2	5.1	4.9	4.7	4.4	4.3	4.7	5.5	6.6	3.8 L	6.9	115.0	0.8	2.7	2.7	2.3
PNC Financial Services Corp.	5.2	8.3	5.2	na	5.0	5.0	4.9	4.7	4.7	4.7	4.8	na	7.1	5.9 H	7.3 H	119.7	-1.4	2.0	1.6	1.6
RDQ Economics	5.2	8.3	5.2	5.7 H	5.1	5.0	4.6	4.3	4.4	4.4	4.4	6.0	7.2 H	4.6	6.9	116.2	-1.8 L	3.0	3.2	3.1
Comerica Bank	5.1	8.3	5.1	na	5.1	4.9	4.5	3.9	3.9	4.0	4.3	5.0	5.9	na	6.5	na	1.3	2.0	2.1	2.2
Economist Intelligence Unit	5.1	8.3	na	5.1	5.0	4.8	4.6	4.6	4.4	4.4	4.5	na	na	na	7.1	na	1.1	na	2.2	na
Fannie Mae	5.1	8.3	na	na	4.9	4.8	4.6	4.4	4.2	4.3	4.5	na	na	na	6.7	na	-0.5	2.2	2.1	2.0
Nomura Securities, Inc.	5.1	8.3	na	na	na	na	na	3.7	3.7	3.9	na	na	na	na	na	na	-1.1	2.0	2.8	2.5
The Northern Trust Company	5.1	8.3	5.1	5.2	5.1	4.9	4.7	4.3	4.4	4.5	4.8	5.6	6.7	4.8	7.0	114.0	1.3	2.2	2.3	2.3
Chmura Economics & Analytics	5.0	8.1	4.9	5.0	5.0	5.1	5.2	4.8	4.5	4.7	4.8	5.4	na	na	7.4	na	0.8	2.8	2.8	2.5
DePrince & Assoc.	5.0	8.1	5.0	5.0	5.0	5.0	4.9	4.7	4.6	4.6	4.7	5.7	6.6	4.8	7.0	117.3	1.8	2.5	2.7	2.5
EY-Parthenon	5.0	na	na	na	4.6	na	na	na	na	3.9	na	na	na	na	na	na	1.5	2.2	2.5	2.2
Moody's Analytics	5.0	8.2	5.0	4.9	4.7	4.7	4.6	4.5	4.3	4.1	4.6	5.6	6.6	4.3	6.7	na	1.5	1.8	2.3	2.3
Bank of America	4.9	na	na	na	na	na	na	4.3	4.3	4.3	4.7	na	na	na	na	na	0.5	2.7	2.5	2.4
KPMG	4.9	8.0	4.9	4.6	4.9	4.8	4.7	4.3	3.9	3.9	4.1	4.8	6.0	na	6.5	na	1.0	2.6	3.4 H	2.8
Scotiabank Group	4.8	na	4.6	na	4.2	na	na	3.7	3.8	4.0	4.2	na	na	na	na	na	0.8	1.5	3.2	1.9
Via Nova Investment Mgt.	4.8	8.0	4.8	4.9	4.8	4.8	4.8	5.1 H	5.1 H	5.1 H	5.1 H	6.2 H	6.8	5.1	7.9 H	112.0	2.5 H	2.1	2.1	2.1
GLC Financial Economics	4.7	7.8	4.6	4.7	4.6	4.6	4.4	4.0	4.2	4.2	4.5	5.1	6.0	4.3	6.2	116.1	2.1	1.4 L	2.2	2.3
MacroPolicy Perspectives	4.7	7.8	4.6	na	na	na	na	4.0	4.2	4.3	na	na	na	na	6.8	na	2.0	2.4	2.5	2.0
Daiwa Capital Markets America	4.6	7.8	na	na	4.4	na	na	3.7	3.5 L	3.6	4.3	na	na	na	6.3	115.0	1.0	2.4	2.5	2.4
MacroFin Analytics & Rutgers Bus School	4.6	7.8	4.5	4.7	4.5	4.7	4.8	4.7	4.0	4.2	4.4	5.1	5.7 L	4.1	6.9	115.3	1.3	2.2	2.3	2.4
Societe Generale	4.6	7.8	4.6	na	4.4	4.1	3.7	3.3	3.5 L	3.6	3.9 L	na	na	na	na	na	-0.5	1.8	2.2	1.9
ING	4.4	na	na	na	na	na	na	3.5	3.5 L	3.5 L	3.9 L	na	na	na	na	na	-1.7	na	na	na
The Lonski Group	4.4	7.6	4.4	4.4	4.2	4.2	4.1	4.0	4.0	3.9	4.1	5.0	5.8	4.1	6.7	118.7	0.8	2.1	2.1	2.2
Wells Fargo	4.4	7.5	4.4	4.4	4.0	3.6	3.4 L	3.4	3.5 L	3.7	4.0	4.9	5.9	4.3	6.4	na	-1.5	1.4 L	1.3	1.4
Georgia State University	4.0	7.2	na	na	3.9	3.7	3.5	3.5	3.7	4.0	4.3	5.0	6.1	na	6.8	na	0.4	2.4	3.3	2.6
TS Lombard	3.5	6.6 L	3.5 L	3.5	3.4 L	3.5 L	3.6	3.8	3.9	4.0	4.1	4.9	5.7 L	4.0	5.8 L	110.0 L	1.5	3.4 H	3.4 H	3.4 H
NatWest Markets	3.3 L	na	na	3.4 L	3.6	3.7	3.8	3.2 L	3.5 L	4.1	4.6	4.9	5.8	4.6	6.4	na	-0.5	1.6	1.7	2.0
December Consensus	**4.9**	**8.1**	**4.9**	**4.9**	**4.8**	**4.7**	**4.6**	**4.2**	**4.1**	**4.2**	**4.5**	**5.3**	**6.3**	**4.6**	**6.9**	**115.9**	**0.6**	**2.2**	**2.5**	**2.3**
Top 10 Avg.	5.3	8.4	5.3	5.3	5.3	5.2	5.0	4.8	4.6	4.6	4.8	5.6	6.7	4.9	7.3	117.4	1.7	2.8	3.1	2.7
Bottom 10 Avg.	4.3	7.6	4.5	4.5	4.1	4.2	4.0	3.6	3.7	3.8	4.1	4.9	5.9	4.2	6.4	114.4	-1.1	1.7	1.9	1.8
November Consensus	4.9	8.0	4.9	4.8	4.8	4.7	4.6	4.2	4.1	4.2	4.5	5.2	6.3	4.5	6.8	116.6	1.0	2.2	2.5	2.3
Number of Forecasts Changed From A Month Ago:																				
Down	11	7	7	7	14	14	12	12	11	10	12	8	8	10	13	8	17	10	8	8
Same	22	16	15	9	12	8	7	13	16	15	10	7	7	4	6	5	12	16	16	15
Up	4	6	3	4	6	5	8	11	9	12	12	7	6	4	9	4	8	9	12	12
Diffusion Index	41%	48%	42%	43%	38%	33%	43%	49%	47%	53%	50%	48%	45%	33%	43%	38%	38%	49%	56%	56%

Fourth Quarter 2024

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter															Avg. For	(Q-Q % Change) (SAAR)			
	Short-Term							Intermediate-Term			Long-Term					Qtr.				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	A.	B.	C.	D.	E.
	Federal Funds Rate	Prime Bank Rate	SOFR Rate	Com. Paper 1-Mo.	Treas. Bills 3-Mo.	Treas. Bills 6-Mo.	Treas. Bills 1-Yr.	Treas. Notes 2-Yr.	Treas. Notes 5-Yr.	Treas. Notes 10-Yr.	Treas. Bond 30-Yr.	Aaa Corp. Bond	Baa Corp. Bond	State & Local Bonds	Home Mtg. Rate	Fed's Adv Fgn Econ $ Index	Real GDP	GDP Price Index	Cons. Price Index	PCE Price Index
Barclays	5.3 H	na	na	na	5.1	na	na	4.4	4.3	4.3	4.5	na	na	na	na	na	1.0	2.7	2.6	2.6
Chan Economics	5.2	8.2	5.1	5.1	5.2	5.3 H	5.1 H	4.6	4.1	4.2	4.4	5.4	6.4	4.8	7.0	114.3	0.8	2.3	2.5	2.1
Goldman Sachs & Co.	5.1	na	na	na	4.8	na	na	4.6	4.5	4.6	4.5	na	na	na	na	na	1.9	2.1	2.4	2.1
Loomis, Sayles & Company	5.1	8.3 H	5.1	5.1	5.2	5.1	4.9	4.6	4.6	4.5	4.7	5.3	6.3	4.6	6.9	116.6	-2.2 L	1.9	1.5 L	1.5 L
Regions Financial Corporation	5.1	8.3 H	5.1	5.2 H	4.8	4.8	4.8	4.1	4.1	4.1	4.3	5.1	6.2	4.4	6.7	115.5	1.6	2.4	2.4	2.5
S&P Global Market Intelligence	5.1	8.2	5.0	na	4.8	4.5	4.5	4.1	3.9	4.0	4.3	na	na	na	6.5	na	1.3	2.3	2.0	2.1
Santander Capital Markets	5.1	8.3 H	5.1	5.1	4.7	4.6	4.5	4.4	4.2	4.1	4.4	5.2	6.3	3.6 L	6.6	114.0	1.1	2.5	2.5	2.1
Action Economics	5.0	8.2	5.7 H	5.0	5.1	4.9	4.6	4.6	4.5	4.5	4.6	5.3	6.3	4.3	7.6 H	119.0	1.6	1.5	2.4	1.8
BMO Capital Markets	5.0	8.2	5.0	5.1	5.2	5.1	4.6	3.9	4.0	4.1	4.3	5.3	6.4	4.8	7.1	117.6	1.5	2.0	2.2	2.0
Fannie Mae	5.0	8.1	na	na	4.6	4.6	4.4	4.3	4.2	4.3	4.4	na	na	na	6.6	na	0.5	2.2	2.6	2.3
J.P. Morgan Chase	5.0	na	na	na	na	na	na	3.9	3.9	4.0	4.5	na	na	na	na	na	0.8	2.3	2.4	2.0
Oxford Economics	5.0	8.2	5.0	na	5.3 H	5.2	4.9	4.5	3.7	4.1	4.4	4.2 L	na	na	6.9	116.1	0.7	2.3	1.8	2.2
PNC Financial Services Corp.	5.0	8.1	5.0	na	4.7	4.6	4.6	4.6	4.7	4.8 H	5.0	na	7.1 H	5.9 H	7.2	122.0 H	-1.2	1.9	1.8	1.6
Comerica Bank	4.8	8.0	4.8	na	4.7	4.5	4.0	3.5	3.5	3.7	4.0	4.7	5.6 L	na	6.0	na	1.5	2.0	2.1	2.2
Economist Intelligence Unit	4.8	8.0	na	4.8	4.8	4.6	4.5	4.4	4.2	4.3	4.5	na	na	na	7.0	na	1.5	na	2.1	na
EY-Parthenon	4.8	na	na	na	4.4	na	na	na	na	3.8	na	na	na	na	na	na	1.8	2.1	2.2	2.1
Moody's Analytics	4.8	7.9	4.7	4.7	4.5	4.4	4.4	4.3	4.2	4.1	4.5	5.5	6.5	4.2	6.5	na	1.5	1.9	2.2	2.3
DePrince & Assoc.	4.7	7.8	4.7	4.7	4.7	4.7	4.6	4.5	4.5	4.5	4.6	5.7	6.6	4.9	6.8	117.1	2.1	2.4	2.6	2.4
RDQ Economics	4.7	7.8	4.7	5.1	4.6	4.6	4.4	4.2	4.3	4.3	5.3 H	5.9 H	7.0	5.6	6.8	115.1	0.9	2.9	3.0	3.0
Bank of America	4.6	na	na	na	na	na	na	4.0	4.2	4.3	4.8	na	na	na	na	na	1.0	2.5	1.9	2.2
Nomura Securities, Inc.	4.6	7.8	na	na	na	na	na	3.2	3.3 L	3.7	na	na	na	na	na	na	-1.9	1.6	2.7	2.3
The Northern Trust Company	4.6	7.8	4.6	4.7	4.5	4.3	4.2	3.9	4.2	4.3	4.6	5.6	6.7	4.7	6.8	112.0	1.5	2.1	2.2	2.2
Chmura Economics & Analytics	4.5	7.7	4.5	4.6	4.6	4.8	4.8	4.6	4.4	4.6	4.8	5.4	na	na	7.0	na	1.9	2.5	2.6	2.4
KPMG	4.5	7.6	4.5	4.1	4.4	4.4	4.2	3.9	3.5	3.6	3.9	4.5	5.7	na	6.0	na	2.0	2.4	2.1	2.2
Via Nova Investment Mgt.	4.5	7.8	4.6	4.6	4.5	4.5	4.5	4.8 H	4.8 H	4.8 H	4.8	5.9 H	6.6	4.8	7.6 H	110.0 L	2.5	2.1	2.0	2.1
GLC Financial Economics	4.3	7.4	4.3	4.3	4.3	4.2	4.1	3.7	4.1	4.1	4.4	4.9	5.9	4.3	6.0	115.9	1.6	1.6	2.0	2.2
MacroPolicy Perspectives	4.2	7.4	4.2	na	na	na	na	3.5	4.0	4.3	na	na	na	na	6.5	na	2.3	2.5	2.7	2.1
Societe Generale	4.2	7.3	4.2	na	3.9	3.6	3.3	3.1 L	3.5	3.6	3.9	na	na	na	na	na	3.7 H	1.8	2.2	1.8
Daiwa Capital Markets America	4.1	7.3	na	na	4.0	na	na	3.4	3.3 L	3.5 L	4.2	na	na	na	6.1	115.0	2.0	2.3	2.4	2.3
MacroFin Analytics & Rutgers Bus School	4.1	7.3	4.0	4.3	3.9	4.2	4.4	4.5	3.8	4.0	4.4	5.0	5.6 L	3.9	6.7	115.1	1.6	2.2	2.1	2.2
Scotiabank Group	4.0	na	3.8	na	3.7	na	na	3.5	3.6	4.0	4.2	na	na	na	na	na	1.2	1.1 L	2.9	2.9
ING	3.9	na	na	na	na	na	na	3.3	3.4	3.5 L	3.9	na	na	na	na	na	1.0	na	na	na
The Lonski Group	3.9	7.1	3.9	4.0	3.7	3.8	3.7	3.7	3.8	3.9	4.0	5.0	5.8	4.1	6.6	119.3	1.5	2.2	2.1	2.0
Georgia State University	3.6	6.8	na	na	3.5	3.2 L	3.1 L	3.4	3.4	3.7	4.0	4.7	5.9	na	6.6	na	0.8	2.2	2.0	2.0
Wells Fargo	3.6	6.8	3.6	3.6	3.4 L	3.3	3.2	3.2	3.3 L	3.5 L	3.8 L	4.7	5.7	4.1	6.1	na	0.3	2.6	3.1	2.6
TS Lombard	3.5	6.6 L	3.5 L	3.5	3.4 L	3.5	3.6	3.8	3.9	4.0	4.1	4.9	5.7	4.0	5.8 L	112.0	2.0	3.2 H	3.2 H	3.2 H
NatWest Markets	3.1 L	na	na	3.2 L	3.4 L	3.5	3.6	3.1 L	3.4	4.0	4.6	4.8	5.7	4.5	6.3	na	1.5	1.4	2.7	2.4
December Consensus	**4.6**	**7.7**	**4.6**	**4.5**	**4.5**	**4.4**	**4.3**	**4.0**	**4.0**	**4.1**	**4.4**	**5.1**	**6.2**	**4.5**	**6.7**	**115.7**	**1.2**	**2.2**	**2.3**	**2.2**
Top 10 Avg.	5.1	8.2	5.1	5.0	5.0	4.9	4.7	4.6	4.5	4.5	4.8	5.5	6.6	4.9	7.1	117.4	2.2	2.6	2.8	2.6
Bottom 10 Avg.	3.8	7.2	4.1	4.1	3.7	3.8	3.7	3.3	3.4	3.7	4.0	4.7	5.8	4.1	6.2	113.9	-0.1	1.7	1.9	1.9
November Consensus	4.5	7.6	4.5	4.4	4.5	4.4	4.3	3.9	3.9	4.0	4.3	5.1	6.2	4.4	6.6	116.4	1.5	2.2	2.5	2.3
Number of Forecasts Changed From A Month Ago:																				
Down	9	5	5	4	15	15	12	9	8	6	9	8	8	8	10	8	14	10	11	8
Same	20	17	14	11	12	8	11	14	15	16	11	8	7	5	8	4	17	16	18	16
Up	8	7	6	5	5	4	4	11	11	13	12	6	6	5	10	5	6	9	7	11
Diffusion Index	49%	53%	52%	53%	34%	30%	35%	53%	54%	60%	55%	45%	45%	42%	50%	41%	39%	49%	44%	54%

First Quarter 2025

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter															Avg. For	(Q-Q % Change) (SAAR)			
	Short-Term							Intermediate-Term			Long-Term					Qtr.				
	1 Federal Funds Rate	2 Prime Bank Rate	3 SOFR Rate	4 Com. Paper 1-Mo.	5 Treas. Bills 3-Mo.	6 Treas. Bills 6-Mo.	7 Treas. Bills 1-Yr.	8 Treas. Notes 2-Yr.	9 Treas. Notes 5-Yr.	10 Treas. Notes 10-Yr.	11 Treas. Bond 30-Yr.	12 Aaa Corp. Bond	13 Baa Corp. Bond	14 State & Local Bonds	15 Home Mtg. Rate	A. Fed's Adv Fgn Econ $ Index	B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index
Barclays	5.1 H	na	na	na	4.9	na	na	na	na	na	na	na	na	na	na	na	1.0	3.0 H	3.1 H	2.8 H
Chan Economics	4.9	7.9	4.8	4.8 H	4.9	5.0 H	4.8 H	4.3	3.8	3.9	4.1	5.1	6.1	4.5	6.7	114.0	1.5	2.2	2.4	2.0
Goldman Sachs & Co.	4.9	na	na	na	4.6	na	na	4.5	4.4	4.5	4.5	na	na	na	na	na	1.9	2.2	2.5	2.2
Action Economics	4.8	7.9	5.4 H	4.8 H	4.8	4.6	4.4	4.4	4.4	4.4	4.6	5.3	6.3	4.2	7.5	119.2	1.6	1.8	2.4	1.8
BMO Capital Markets	4.8	7.9	4.8	4.8 H	5.0 H	4.9	4.4	3.8	3.9	4.1	4.2	5.2	6.3	4.8	7.1	117.8	1.7	2.1	2.3	2.1
Oxford Economics	4.8	8.0 H	4.8	na	5.0 H	4.9	4.7	4.4	3.4	3.9	3.8	4.0 L	na	na	6.7	114.3	1.2	2.3	2.1	2.1
Fannie Mae	4.7	7.8	na	na	4.4	4.4	4.3	4.2	4.2	4.3	4.4	na	na	na	6.4	na	1.2	2.1	2.8	2.3
PNC Financial Services Corp.	4.7	7.8	4.7	na	4.4	4.2	4.3	4.5	4.7	4.9 H	5.2 H	na	7.1 H	6.0 H	7.2	123.4 H	0.4 L	2.1	2.0	1.8
S&P Global Market Intelligence	4.7	7.8	4.6	na	4.4	4.1	4.1	3.8	3.6	3.8	4.1	na	na	na	6.1	na	1.5	2.1	0.8 L	1.5
Economist Intelligence Unit	4.6	7.8	na	4.6	4.6	4.4	4.3	4.3	4.1	4.0	4.4	na	na	na	6.7	na	1.9	na	2.2	na
Loomis, Sayles & Company	4.6	7.8	4.6	4.6	4.7	4.6	4.4	4.0	4.4	4.5	4.7	5.3	6.3	4.6	6.8	116.5	1.0	2.1	2.0	2.0
Regions Financial Corporation	4.6	7.8	4.5	4.7	4.5	4.6	4.7	3.8	3.9	4.0	4.3	5.1	6.1	4.3	6.5	115.1	1.7	2.2	2.2	2.3
Santander Capital Markets	4.6	7.8	4.6	4.6	4.2	4.1	4.0	4.0	3.8	3.8	4.1	4.9	6.0	3.4 L	6.2	113.0	1.3	2.8	2.4	2.1
Moody's Analytics	4.5	7.7	4.5	4.4	4.3	4.2	4.3	4.2	4.1	4.0	4.5	5.5	6.5	4.2	6.4	na	1.6	2.2	2.2	2.3
Bank of America	4.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.5	2.6	2.4	2.5
Comerica Bank	4.4	7.6	4.4	na	4.2	4.1	3.6	3.1	3.3	3.5	3.9	4.7	5.5 L	na	5.8 L	na	1.5	1.9	2.0	2.0
J.P. Morgan Chase	4.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.0	2.3	2.5	2.1
DePrince & Assoc.	4.3	7.5	4.4	4.4	4.4	4.4	4.3	4.3	4.4	4.5	4.6	5.7	6.6	4.8	6.7	116.9	2.4	2.3	2.6	2.4
EY-Parthenon	4.3	na	na	na	3.9	na	na	na	na	3.7	na	na	na	na	na	na	2.3	2.2	2.1	2.1
Via Nova Investment Mgt.	4.3	7.5	4.3	4.4	4.2	4.3	4.4	4.7 H	4.9 H	4.9 H	5.0	6.0 H	6.6	4.9	7.7 H	110.0 L	2.5	2.2	2.0	2.1
Chmura Economics & Analytics	4.2	7.3	4.2	4.2	4.3	4.4	4.4	4.6	4.4	4.6	4.8	5.3	na	na	6.7	na	2.5	2.4	2.5	2.4
GLC Financial Economics	4.2	7.3	4.3	4.2	4.2	4.2	4.0	3.8	3.7	3.8	4.1	4.8	6.0	4.3	5.8 L	115.2	2.0	1.6	2.0	2.2
KPMG	4.2	7.3	4.1	3.8	4.0	3.9	3.8	3.5	3.3	3.5	3.8	4.4	5.6	na	5.8 L	na	1.9	2.1	0.9	1.6
Nomura Securities, Inc.	4.1	7.3	na	na	na	na	na	3.0	3.2	3.6	na	na	na	na	na	na	0.4 L	1.6	2.8	2.3
The Northern Trust Company	4.1	7.3	4.1	4.2	4.0	3.8	3.8	3.8	3.9	4.1	4.4	5.4	6.5	4.5	6.6	111.0	1.6	2.1	2.1	2.1
Daiwa Capital Markets America	3.9	7.0	na	na	3.8	na	na	3.1	3.1	3.3	4.1	na	na	na	5.9	115.0	1.6	2.4	2.5	2.2
MacroPolicy Perspectives	3.9	7.0	3.8	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Georgia State University	3.6	6.7	na	na	3.4	3.1 L	3.1	3.3	3.3	3.7	4.0	4.7	5.8	na	6.2	na	1.8	1.9	1.5	1.4 L
MacroFin Analytics & Rutgers Bus School	3.6	6.9	3.5	3.8	3.4	3.7	4.0	4.3	3.7	3.9	4.3	4.8	5.6	3.8	6.6	114.9	1.8	2.0	2.1	2.1
Societe Generale	3.6	6.8	3.6	na	3.4	3.2	3.0 L	2.9 L	2.7 L	3.2 L	3.5 L	na	na	na	na	na	3.6 H	2.0	2.2	1.8
Scotiabank Group	3.5	na	3.3	na	3.3	na	na	3.4	3.5	4.0	4.2	na	na	na	na	na	1.3	2.1	2.0	2.5
The Lonski Group	3.5	6.7	3.5	3.5	3.6	3.7	3.6	3.6	3.7	3.8	4.0	4.9	5.7	4.0	6.4	119.4	1.8	2.2	2.1	2.0
ING	3.4	na	na	na	na	na	na	3.2	3.4	3.5	3.9	na	na	na	na	na	1.5	na	na	na
NatWest Markets	3.1 L	na	na	3.2	3.4	3.5	3.6	na	na	na	na	na	na	na	na	na	2.0	1.4 L	2.5	2.0
Wells Fargo	3.1 L	6.3 L	3.1 L	3.1 L	3.1 L	3.1 L	3.1	3.1	3.2	3.4	3.8	4.6	5.6	4.0	5.9	na	1.8	2.7	3.1 H	2.7
December Consensus	**4.2**	**7.4**	**4.3**	**4.2**	**4.2**	**4.1**	**4.1**	**3.9**	**3.8**	**4.0**	**4.3**	**5.0**	**6.1**	**4.4**	**6.5**	**115.7**	**1.7**	**2.2**	**2.2**	**2.1**
Top 10 Avg.	4.8	7.9	4.7	4.6	4.7	4.6	4.5	4.4	4.4	4.5	4.7	5.4	6.4	4.7	7.0	117.3	2.3	2.5	2.7	2.5
Bottom 10 Avg.	3.5	6.9	3.8	3.9	3.5	3.6	3.6	3.2	3.2	3.5	3.9	4.7	5.8	4.1	6.1	113.9	1.1	1.8	1.7	1.8
November Consensus	4.1	7.2	4.1	4.1	4.1	4.1	4.0	3.8	3.8	3.9	4.2	5.0	6.1	4.4	6.4	116.7	1.9	2.3	2.3	2.2
Number of Forecasts Changed From A Month Ago:																				
Down	6	4	4	2	8	9	7	6	6	7	4	7	6	7	8	7	11	7	8	8
Same	19	16	13	11	14	9	9	14	14	12	14	5	6	6	5	5	12	14	13	11
Up	10	7	6	5	8	7	9	8	8	10	10	7	6	2	11	3	9	9	10	11
Diffusion Index	56%	56%	54%	58%	50%	46%	54%	54%	54%	55%	61%	50%	50%	33%	56%	37%	47%	53%	53%	55%

International Interest Rate And Foreign Exchange Rate Forecasts

United States

Blue Chip Forecasters	Fed Fund Target Rate			10 Yr. Gov't Bond Yield %			Fed's AFE $ Index		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	5.13	5.13	5.13	5.00	4.85	4.35	--	--	--
BMO Capital Markets	5.38	5.38	4.88	4.37	4.26	4.13	117.2	117.2	117.0
ING Financial Markets	5.38	4.88	3.88	4.25	4.00	3.50	116.2	114.0	109.1
Moody's Analytics	5.37	5.38	5.09	4.66	4.33	4.13	--	--	--
Northern Trust	5.38	5.38	4.63	4.70	4.70	4.30	117.5	116.0	112.0
Oxford Economics	5.38	5.38	5.35	4.72	4.65	4.27	118.8	119.4	117.7
S&P Global Market Intelligence	--	--	--	4.64	4.43	4.01	--	--	--
Scotiabank	5.38	5.13	3.88	4.50	4.20	4.00	--	--	--
TS Lombard	4.75	3.50	3.50	4.25	4.00	4.00	110.0	108.0	112.0
Wells Fargo	5.38	5.38	4.38	4.30	3.85	3.65	--	--	--
December Consensus	**5.28**	**5.06**	**4.52**	**4.54**	**4.33**	**4.03**	**115.9**	**114.9**	**113.6**
High	5.38	5.38	5.35	5.00	4.85	4.35	118.8	119.4	117.7
Low	4.75	3.50	3.50	4.25	3.85	3.50	110.0	108.0	109.1
Last Months Avg.	5.49	5.36	4.52	4.64	4.39	3.92	119.3	116.4	112.7

Japan

Blue Chip Forecasters	Policy-Rate Balance Rate			10 Yr. Gov't Bond Yield %			Yen per US$		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	-0.10	0.00	0.20	0.90	0.95	1.00	153.0	152.0	145.0
BMO Capital Markets	-0.10	-0.10	-0.10	0.96	0.98	1.00	148.0	146.0	141.0
ING Financial Markets	-0.10	0.00	0.00	1.00	1.00	1.20	140.0	135.0	130.0
Moody's Analytics	-0.10	-0.10	0.00	0.90	0.90	0.90	148.2	144.0	133.6
Nomura Securities	--	--	--	--	--	--	148.0	140.0	135.0
Northern Trust	-0.10	-0.10	0.10	0.80	0.80	1.00	149.0	146.0	140.0
Oxford Economics	-0.04	-0.04	0.00	0.88	0.91	0.87	150.4	152.5	145.0
S&P Global Market Intelligence	--	--	--	--	--	--	148.9	146.4	141.0
Scotiabank	--	--	--	--	--	--	150.0	150.0	140.0
TS Lombard	0.00	0.00	-0.10	0.65	0.40	0.40	145.0	142.4	147.6
Wells Fargo	-0.10	-0.10	0.00	0.95	0.95	0.85	--	--	--
December Consensus	**-0.08**	**-0.06**	**0.01**	**0.88**	**0.86**	**0.90**	**148.1**	**145.4**	**139.8**
High	0.00	0.00	0.20	1.00	1.00	1.20	153.0	152.5	147.6
Low	-0.10	-0.10	-0.10	0.65	0.40	0.40	140.0	135.0	130.0
Last Months Avg.	-0.08	-0.06	-0.05	0.85	0.80	0.66	147.2	142.6	135.3

United Kingdom

Blue Chip Forecasters	Official Bank Rate			10 Yr. Gilt Yields %			US$ per Pound Sterling		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	5.25	5.25	4.25	4.10	4.10	4.00	1.21	1.23	1.30
BMO Capital Markets	5.25	5.08	4.58	4.39	4.30	4.13	1.26	1.26	1.27
ING Financial Markets	5.25	5.25	4.25	4.25	4.25	3.50	1.23	1.24	1.28
Moody's Analytics	5.25	5.25	5.06	4.26	3.93	3.73	1.25	1.26	1.26
Nomura Securities	--	--	--	--	--	--	1.27	1.28	1.30
Northern Trust	5.25	5.25	4.75	4.30	4.25	3.85	1.24	1.26	1.30
Oxford Economics	5.25	5.25	5.09	4.42	4.39	4.35	1.21	1.21	1.22
S&P Global Market Intelligence	--	--	--	--	--	--	1.22	1.23	1.25
Scotiabank	5.25	4.75	4.25	--	--	--	1.25	1.25	1.30
TS Lombard	5.25	4.25	2.25	4.10	3.85	3.85	1.27	1.20	1.15
Wells Fargo	5.25	4.75	3.75	4.20	3.90	3.55	--	--	--
December Consensus	**5.25**	**5.01**	**4.25**	**4.25**	**4.12**	**3.87**	**1.24**	**1.24**	**1.26**
High	5.25	5.25	5.09	4.42	4.39	4.35	1.27	1.28	1.30
Low	5.25	4.25	2.25	4.10	3.85	3.50	1.21	1.20	1.15
Last Months Avg.	5.28	5.09	4.43	4.52	4.28	3.88	1.22	1.23	1.24

Switzerland

Blue Chip Forecasters	SNB Policy Rate			10 Yr. Gov't Bond Yield %			CHF per US$		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	1.75	1.75	1.25	--	--	--	0.91	0.92	0.91
BMO Capital Markets	1.75	1.75	1.75	--	--	--	0.87	0.86	0.85
ING Financial Markets	1.75	1.75	1.75	1.10	1.10	1.10	0.91	0.90	0.87
Moody's Analytics	2.00	2.00	2.00	1.46	1.96	2.05	0.89	0.88	0.84
Nomura Securities	--	--	--	--	--	--	0.88	0.87	0.86
Northern Trust	1.75	1.75	1.50	1.00	1.00	0.90	0.89	0.87	0.85
Oxford Economics	1.75	1.75	1.63	1.15	1.25	1.34	0.91	0.93	0.92
S&P Global Market Intelligence	--	--	--	--	--	--	0.92	0.91	0.89
Scotiabank	--	--	--	--	--	--	0.89	0.89	0.89
TS Lombard	1.75	1.50	1.25	0.80	0.55	0.55	0.90	0.90	0.90
Wells Fargo	1.75	1.50	1.25	--	--	--	--	--	--
December Consensus	**1.78**	**1.72**	**1.55**	**1.10**	**1.17**	**1.19**	**0.90**	**0.89**	**0.88**
High	2.00	2.00	2.00	1.46	1.96	2.05	0.92	0.93	0.92
Low	1.75	1.50	1.25	0.80	0.55	0.55	0.87	0.86	0.84
Last Months Avg.	1.79	1.75	1.59	1.29	1.31	1.29	0.91	0.90	0.89

Canada

Blue Chip Forecasters	O/N MMkt Financing Rate			10 Yr. Gov't Bond Yield %			C$ per US$		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	5.25	5.25	5.00	--	--	--	1.39	1.38	1.36
BMO Capital Markets	5.00	5.00	4.50	3.64	3.58	3.54	1.33	1.31	1.28
ING Financial Markets	5.00	4.50	3.50	3.50	3.25	3.00	1.35	1.33	1.27
Moody's Analytics	5.00	5.00	4.49	4.39	4.19	4.14	1.36	1.32	1.27
Nomura Securities	--	--	--	--	--	--	1.34	1.33	1.31
Northern Trust	5.00	5.00	4.25	3.75	3.70	3.20	1.38	1.34	1.30
Oxford Economics	5.00	5.00	4.63	4.01	3.97	3.91	1.37	1.38	1.37
S&P Global Market Intelligence	--	--	--	--	--	--	1.35	1.33	1.30
Scotiabank	5.00	4.75	4.00	3.85	3.75	3.65	1.33	1.33	1.28
TS Lombard	5.00	4.00	2.75	3.50	2.25	2.25	1.35	1.35	1.35
Wells Fargo	5.00	4.50	4.00	3.60	3.50	3.30	--	--	--
December Consensus	**5.03**	**4.78**	**4.12**	**3.78**	**3.52**	**3.37**	**1.36**	**1.34**	**1.31**
High	5.25	5.25	5.00	4.39	4.19	4.14	1.39	1.38	1.37
Low	5.00	4.00	2.75	3.50	2.25	2.25	1.33	1.31	1.27
Last Months Avg.	5.03	4.88	4.17	3.91	3.76	3.39	1.35	1.33	1.30

International Interest Rate And Foreign Exchange Rate Forecasts

Australia

Blue Chip Forecasters	Official Cash Rate			10 Yr. Gov't Bond Yield %			US$ per A$		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	4.35	4.35	3.85	--	--	--	0.63	0.64	0.66
BMO Capital Markets	4.35	4.10	3.60	--	--	--	0.66	0.66	0.67
ING Financial Markets	4.35	4.10	3.60	4.80	4.30	3.70	0.63	0.66	0.72
Moody's Analytics	4.27	4.35	4.10	5.12	4.90	4.36	0.64	0.66	0.72
Nomura Securities	--	--	--	--	--	--	0.68	0.69	0.71
Northern Trust	4.35	4.35	3.85	4.60	4.50	4.10	0.64	0.66	0.68
Oxford Economics	4.40	4.60	4.60	4.60	4.76	4.41	0.64	0.64	0.67
S&P Global Market Intelligence	--	--	--	--	--	--	0.64	0.66	0.69
Scotiabank	--	--	--	--	--	--	0.66	0.66	0.68
TS Lombard	4.10	3.75	2.75	4.40	3.20	3.20	0.65	0.65	0.65
Wells Fargo	4.35	4.35	4.10	--	--	--	--	--	--
December Consensus	**4.32**	**4.24**	**3.81**	**4.70**	**4.33**	**3.95**	**0.65**	**0.66**	**0.69**
High	4.40	4.60	4.60	5.12	4.90	4.41	0.68	0.69	0.72
Low	4.10	3.75	2.75	4.40	3.20	3.20	0.63	0.64	0.65
Last Months Avg.	4.24	4.12	3.76	4.59	4.27	3.69	0.65	0.66	0.68

Euro area

Blue Chip Forecasters	Main Refinancing Rate			US$ per Euro		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	4.50	4.50	3.50	1.05	1.06	1.09
BMO Capital Markets	4.50	4.25	3.75	1.10	1.11	1.12
ING Financial Markets	4.50	4.25	3.75	1.08	1.10	1.15
Moody's Analytics	4.50	4.50	4.22	1.04	1.06	1.09
Nomura Securities	--	--	--	1.11	1.12	1.14
Northern Trust	4.50	4.25	3.75	1.07	1.10	1.14
Oxford Economics	4.50	4.50	3.75	1.05	1.05	1.06
S&P Global Market Intelligence	--	--	--	1.07	1.09	1.12
Scotiabank	4.50	4.25	3.75	1.10	1.10	1.12
TS Lombard	4.00	2.75	2.75	1.10	1.10	1.10
Wells Fargo	4.00	3.75	3.25	--	--	--
December Consensus	**4.39**	**4.11**	**3.61**	**1.08**	**1.09**	**1.11**
High	4.50	4.50	4.22	1.11	1.12	1.15
Low	4.00	2.75	2.75	1.04	1.05	1.06
Last Months Avg.	4.38	4.22	3.56	1.05	1.06	1.09

10 Yr. Gov't Bond Yields %

Blue Chip Forecasters	Germany			France			Italy			Spain		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	2.70	2.65	2.25	--	--	--	--	--	--	--	--	--
BMO Capital Markets	2.60	2.49	2.28	--	--	--	--	--	--	--	--	--
ING Financial Markets	2.40	2.30	2.30	3.30	3.20	3.30	4.70	4.40	4.50	3.85	3.60	3.70
Moody's Analytics	2.73	2.67	2.60	3.28	3.15	3.02	4.60	4.60	4.53	3.84	3.77	3.75
Northern Trust	2.65	2.50	2.10	3.15	3.00	2.60	4.35	4.25	3.85	3.60	3.50	3.10
Oxford Economics	2.80	2.73	2.44	3.37	3.29	2.91	4.82	4.72	4.43	3.89	3.80	3.55
TS Lombard	2.40	2.15	2.15	2.75	2.50	2.50	3.70	3.45	3.45	3.15	2.90	2.90
Wells Fargo	2.55	2.50	2.45	--	--	--	--	--	--	--	--	--
December Consensus	**2.60**	**2.50**	**2.32**	**3.17**	**3.03**	**2.87**	**4.43**	**4.28**	**4.15**	**3.67**	**3.51**	**3.40**
High	2.80	2.73	2.60	3.37	3.29	3.30	4.82	4.72	4.53	3.89	3.80	3.75
Low	2.40	2.15	2.10	2.75	2.50	2.50	3.70	3.45	3.45	3.15	2.90	2.90
Last Months Avg.	2.76	2.63	2.44	3.27	3.09	2.88	4.49	4.31	4.10	3.76	3.60	3.42

	Consensus Forecasts 10-year Bond Yields vs U.S. Yield			
	Current	In 3 Mo.	In 6 Mo.	In 12 Mo.
Japan	-3.68	-3.66	-3.47	-3.13
United Kingdom	-0.13	-0.29	-0.21	-0.16
Switzerland	-3.49	-3.44	-3.16	-2.85
Canada	-0.75	-0.76	-0.80	-0.66
Australia	0.08	0.16	0.00	-0.08
Germany	-1.83	-1.94	-1.83	-1.71
France	-1.27	-1.37	-1.30	-1.17
Italy	-0.08	-0.11	-0.04	0.12
Spain	-0.89	-0.87	-0.81	-0.63

	Consensus Forecasts Policy Rates vs U.S. Target Rate			
	Current	In 3 Mo.	In 6 Mo.	In 12 Mo.
Japan	-5.48	-5.36	-5.01	-4.51
United Kingdom	-0.13	-0.03	-0.05	-0.28
Switzerland	-3.63	-3.50	-3.34	-2.98
Canada	-0.38	-0.25	-0.28	-0.40
Australia	-1.03	-0.97	-0.82	-0.72
Euro area	-0.88	-0.89	-0.95	-0.92

Special Questions:

1. What is your estimate of the long-term neutral fed funds rate?

Consensus	2.90%
Top 10	3.72%
Bottom 10	2.29%

2. Have financial conditions tightened sufficiently to delay/prevent further policy rate increases? Yes 97% No 3%

3. What probability do you attach to a recession beginning over the next 12 months in the:

	US	euro area	UK
Consensus	**44%**	**55%**	**58%**
Top 10	59%	66%	67%
Bot 10	29%	44%	48%

4 a. Does your outlook for China's economy pose meaningful risks to the outlook for global growth? Yes 74% No 26%

b. Do you think recent policy measures in China will boost its growth rate? Yes 37% No 63%

5 a. Has the Federal Reserve completed its tightening cycle? Yes 100% No 0%

b. Has the European Central Bank completed its tightening cycle? Yes 91% No 9%

c. Has the Bank of England completed its tightening cycle? Yes 91% No 9%

6. When will the first hike in the BoJ's short-term policy rate occur?

Q4 2023	0%
Q1 2024	5%
Q2 2024	53%
Q3 2024	21%
Later	21%

Viewpoints:

A Sampling of Views on the Economy, Financial Markets and Government Policy Excerpted from Recent Reports Issued by our Blue Chip Panel Members and Others

FOMC: On Hold in Restrictive Territory
(Lawrence Werther, Daiwa Capital Markets America)

Since the Fed embarked on its aggressive rate hike campaign in March 2022, we have held the view that a restrictive stance of monetary policy would be required to tame rapid inflation and prevent erosion in inflation expectations of businesses and households. For much of the past year, we had anticipated that the current campaign would culminate in a final increase of 25 basis points in the target range for the federal funds rate to 5.50 to 5.75 percent, with the last change occurring in late 2023, before maintaining the policy rate in restrictive territory for several months. In light of more recent developments, we have become less confident in anticipating any further increase. The FOMC last hiked the federal funds rate in July, and comments by various officials since then, in our view, have turned decidedly more cautious. Moreover, while inflation is still well above target and various indicators suggest that supply and demand imbalances persist in the labor market, we see increasing evidence on both fronts that give officials more leeway to wait for restrictive policy to work.

As of now, and despite the constant reminders from Fed officials that more hikes are possible, we suspect that the FOMC is done tightening monetary policy (i.e., a terminal target range of 5.25 to 5.50 percent). However, while this represents a shift in our Fed call, it is not a material one. We still project policymakers holding the federal funds rate at the terminal rate well into 2024-Q2 to ensure that inflation is convincingly on a path back toward 2%. As inflation decelerates further and the economy struggles amid still-tight financial conditions, we expect the FOMC to begin its slow transition to easier policy. That said, rather than projecting a first cut of 25 basis points to come at the April 30/May 1 FOMC meeting, we now look for the change to occur at the June 11-12 gathering. We then look for the Committee to continue easing by 25-basis-point increments at each of the final four meetings of 2024, leading to a year-end target range of 4.00 to 4.25 percent (consistent with our previous forecast).

Messaging is likely to present a key challenge for officials in coming months despite what we view as a sufficiently restrictive monetary policy. Financial conditions are the primary transmission mechanism of monetary policy to the real economy, and while the economy has responded to tight financial conditions, maintenance of the current constraints on economic activity is essential to achieve desired policy outcomes, i.e., stable prices and maximum sustainable employment. Evidence of the challenge awaiting officials emerged as markets repriced to incorporate evolving expectations for monetary policy. The S&P 500 has rallied more than nine percent since its recent low on October 27, erasing much of the easing in the August-to-October period. Moreover, softening data and the perception that the Fed is done hiking interest rates contributed to a 16-basis-point drop in the 2-year yield from last Friday's close to 4.90 percent and a plunge of 21 basis points in the 10-year yield to 4.44 percent. Consequently, additional easing in financial conditions, despite the maintenance of restrictive policy, could jeopardize further progress toward policy objectives.

A near-term catalyst for movements in financial markets, and key contributory factor in the revision of our Fed call, was data this week that pointed more decidedly toward progress in inflation and easing in tight labor market conditions. On the inflation front, the CPI for October printed below expectations. The headline was flat while the core increased 0.2%. Moreover, risks tilted to the upside as many analysts were concerned that changes to the calculation of health insurance costs in the October report could lead to an upswing in a previously subdued area.

Headline CPI inflation has fallen from a peak of 9.1% in June 2022 to 3.2% in Oct, including a slowing of five ticks in the past month. Energy costs have dropped and increases in food prices have decelerated sharply. Improvement in the core component has been measurable, but less dramatic, as prices rose 4.0% in Oct vs 4.2% in Sep. Additionally, Fed officials rightly view core inflation as still well above the two percent target. Core goods inflation has returned to the pre-2020 trend after the unwinding of pandemic-related supply-demand imbalances (year-over-year growth of 0.1 percent as of October), but more improvement is required in core services where year-over-year growth has slowed from a peak of 7.3 percent in February 2023 but is still elevated at 5.5 percent. Housing costs (illustrated by owners' equivalent rent in the chart) is still a key contributor to core service costs and is widely expected to moderate only over time.

A helpful illustration of near-term progress on inflation is the recent month-to-month performance of the trimmed-mean CPI. (We view this measure as offering a better perspective of underlying inflation as it eliminates price changes at the tails of the monthly distribution.) On a year-over-year basis, this measure has remained elevated (growth of 4.1 percent versus 4.3 percent in September), but the far better near-term performance indicates a more forceful easing in underlying inflation (increases of 0.2 percent in five of the past eight months).

Data on unemployment claims also suggest a slowdown in the real economy that should further dull the underlying inflation impulse, while also emphasizing that risks to the outlook have become more two-sided. That is, the risks of doing too little to combat entrenched inflation must now be weighed against the risks of overtightening and doing unnecessary damage to the economy. While initial claims increased by 13,000 to 231,000 in the week of Nov 11, a reading above the pre-pandemic average of 218,000, which suggested a labor market on firm footing, they were still relatively low from a longer-term perspective. More important, and perhaps somewhat concerning, was the jump of 32,000 in continuing unemployment claims to 1.865 million in the week of Nov 4. Over the past eight weeks, continuing claims have risen by a cumulative 207,000 to the highest level in almost two years. On one hand, this development speaks to an ongoing rebalancing in a tight labor market; on the other hand, it may be the beginning of an uptrend that usually presents prior to the onset of a recession. Again, this development speaks to postponing further hikes, both because policy goals appear more attainable with the current level of monetary restraint and because caution is warranted as the economy possibly nears an inflection point.

Long-Range Survey:

The table below contains the results of our twice-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are consensus estimates for the years 2025 through 2029 and averages for the five-year periods 2025-2029 and 2030-2034. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

		Average For The Year					Five-Year Averages	
		2025	2026	2027	2028	2029	2025-2029	2030-2034
1. Federal Funds Rate	**CONSENSUS**	**3.8**	**3.2**	**3.1**	**3.0**	**3.0**	**3.2**	**3.0**
	Top 10 Average	4.3	3.6	3.6	3.5	3.5	3.7	3.5
	Bottom 10 Average	3.3	2.7	2.6	2.6	2.5	2.7	2.5
2. Prime Rate	**CONSENSUS**	**6.9**	**6.3**	**6.2**	**6.2**	**6.2**	**6.3**	**6.1**
	Top 10 Average	7.3	6.7	6.7	6.6	6.6	6.8	6.6
	Bottom 10 Average	6.5	5.9	5.7	5.7	5.7	5.9	5.6
3. SOFR	**CONSENSUS**	**3.8**	**3.2**	**3.1**	**3.1**	**3.1**	**3.3**	**3.0**
	Top 10 Average	4.1	3.6	3.5	3.5	3.4	3.6	3.4
	Bottom 10 Average	3.4	2.9	2.7	2.7	2.6	2.9	2.6
4. Commercial Paper, 1-Mo	**CONSENSUS**	**3.7**	**3.2**	**3.2**	**3.2**	**3.1**	**3.3**	**3.1**
	Top 10 Average	3.9	3.5	3.4	3.4	3.4	3.5	3.4
	Bottom 10 Average	3.5	2.9	2.8	2.8	2.8	3.0	2.7
5. Treasury Bill Yield, 3-Mo	**CONSENSUS**	**3.7**	**3.2**	**3.1**	**3.0**	**3.0**	**3.2**	**3.0**
	Top 10 Average	4.1	3.6	3.6	3.5	3.5	3.7	3.5
	Bottom 10 Average	3.2	2.7	2.6	2.5	2.5	2.7	2.4
6. Treasury Bill Yield, 6-Mo	**CONSENSUS**	**3.7**	**3.3**	**3.2**	**3.2**	**3.1**	**3.3**	**3.1**
	Top 10 Average	4.1	3.7	3.6	3.6	3.6	3.7	3.6
	Bottom 10 Average	3.4	2.9	2.8	2.7	2.7	2.9	2.7
7. Treasury Bill Yield, 1-Yr	**CONSENSUS**	**3.7**	**3.4**	**3.3**	**3.3**	**3.2**	**3.4**	**3.2**
	Top 10 Average	4.1	3.8	3.7	3.7	3.7	3.8	3.7
	Bottom 10 Average	3.3	3.0	2.9	2.8	2.8	3.0	2.8
8. Treasury Note Yield, 2-Yr	**CONSENSUS**	**3.7**	**3.5**	**3.4**	**3.4**	**3.4**	**3.5**	**3.4**
	Top 10 Average	4.1	3.9	3.9	3.9	3.9	3.9	3.9
	Bottom 10 Average	3.3	3.1	3.0	2.9	2.9	3.0	2.9
9. Treasury Note Yield, 5-Yr	**CONSENSUS**	**3.7**	**3.7**	**3.7**	**3.7**	**3.7**	**3.7**	**3.7**
	Top 10 Average	4.1	4.1	4.2	4.2	4.3	4.2	4.3
	Bottom 10 Average	3.3	3.2	3.2	3.1	3.1	3.2	3.1
10. Treasury Note Yield, 10-Yr	**CONSENSUS**	**3.9**	**3.9**	**3.9**	**3.9**	**3.9**	**3.9**	**3.9**
	Top 10 Average	4.3	4.4	4.5	4.5	4.5	4.4	4.5
	Bottom 10 Average	3.5	3.3	3.3	3.3	3.3	3.3	3.3
11. Treasury Bond Yield, 30-Yr	**CONSENSUS**	**4.1**	**4.1**	**4.1**	**4.2**	**4.2**	**4.1**	**4.2**
	Top 10 Average	4.5	4.6	4.7	4.7	4.7	4.6	4.8
	Bottom 10 Average	3.8	3.6	3.6	3.6	3.6	3.7	3.6
12. Corporate Aaa Bond Yield	**CONSENSUS**	**5.0**	**4.9**	**4.9**	**5.0**	**5.0**	**4.9**	**5.0**
	Top 10 Average	5.3	5.3	5.4	5.5	5.5	5.4	5.5
	Bottom 10 Average	4.6	4.5	4.5	4.5	4.5	4.5	4.4
13. Corporate Baa Bond Yield	**CONSENSUS**	**6.0**	**6.0**	**6.0**	**6.0**	**6.0**	**6.0**	**6.0**
	Top 10 Average	6.4	6.4	6.5	6.6	6.6	6.5	6.6
	Bottom 10 Average	5.7	5.5	5.5	5.6	5.6	5.6	5.6
14. State & Local Bonds Yield	**CONSENSUS**	**4.3**	**4.3**	**4.3**	**4.3**	**4.3**	**4.3**	**4.3**
	Top 10 Average	4.6	4.7	4.7	4.8	4.8	4.7	4.9
	Bottom 10 Average	4.0	3.8	3.9	3.9	3.8	3.9	3.8
15. Home Mortgage Rate	**CONSENSUS**	**6.2**	**5.9**	**5.9**	**5.9**	**5.9**	**5.9**	**5.8**
	Top 10 Average	6.6	6.4	6.4	6.5	6.5	6.5	6.5
	Bottom 10 Average	5.7	5.5	5.4	5.3	5.2	5.4	5.2
A. Fed's AFE Nominal $ Index	**CONSENSUS**	**114.1**	**113.0**	**113.1**	**113.2**	**112.8**	**113.2**	**112.3**
	Top 10 Average	116.0	115.5	115.9	116.5	116.2	116.0	115.7
	Bottom 10 Average	111.8	110.4	110.1	109.6	109.1	110.2	108.5
		Year-Over-Year, % Change					Five-Year Averages	
		2025	2026	2027	2028	2029	2025-2029	2030-2034
B. Real GDP	**CONSENSUS**	**1.6**	**2.1**	**2.1**	**2.0**	**2.0**	**1.9**	**2.0**
	Top 10 Average	2.1	2.4	2.4	2.3	2.3	2.3	2.3
	Bottom 10 Average	1.1	1.8	1.8	1.7	1.7	1.6	1.7
C. GDP Chained Price Index	**CONSENSUS**	**2.2**	**2.2**	**2.1**	**2.1**	**2.2**	**2.2**	**2.2**
	Top 10 Average	2.5	2.3	2.3	2.3	2.3	2.3	2.3
	Bottom 10 Average	2.0	2.0	2.0	2.0	2.0	2.0	2.0
D. Consumer Price Index	**CONSENSUS**	**2.3**	**2.2**	**2.2**	**2.2**	**2.2**	**2.2**	**2.2**
	Top 10 Average	2.5	2.4	2.4	2.4	2.4	2.4	2.4
	Bottom 10 Average	2.1	2.1	2.0	2.0	2.0	2.0	2.0
E. PCE Price Index	**CONSENSUS**	**2.2**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**
	Top 10 Average	2.3	2.3	2.2	2.2	2.2	2.2	2.3
	Bottom 10 Average	2.0	2.0	1.9	1.9	2.0	1.9	2.0

Databank:

2023 Historical Data

Monthly Indicator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Retail and Food Service Sales (a)	2.8	-0.7	-0.9	0.4	0.7	0.2	0.6	0.7	0.9	-0.1	....	....
Auto & Light Truck Sales (b)	15.10	14.88	14.93	15.68	15.51	16.06	15.94	15.27	15.68	15.50	....	....
Personal Income (a, current $)	1.0	0.5	0.5	0.2	0.3	0.2	0.3	0.5	0.4	0.2	....	....
Personal Consumption (a, current $)	1.6	0.4	-0.1	0.4	0.2	0.4	0.7	0.4	0.7	0.2	....	....
Consumer Credit (e)	5.1	2.8	4.8	3.3	-0.2	3.1	2.7	-3.8	2.2	....	....	....
Consumer Sentiment (U. of Mich.)	64.9	66.9	62.0	63.7	59.0	64.2	71.5	69.4	67.9	63.8	61.3	....
Household Employment (c)	894	177	577	139	-310	273	268	222	86	-348	....	....
Nonfarm Payroll Employment (c)	472	248	217	217	281	105	236	165	297	150	....	....
Unemployment Rate (%)	3.4	3.6	3.5	3.4	3.7	3.6	3.5	3.8	3.8	3.9	....	....
Average Hourly Earnings (All, cur. $)	33.02	33.11	33.20	33.34	33.45	33.60	33.73	33.82	33.93	34.00	....	....
Average Workweek (All, hrs.)	34.6	34.5	34.4	34.4	34.3	34.4	34.3	34.4	34.4	34.3	....	....
Industrial Production (d)	1.5	0.9	0.2	0.3	0.1	-0.4	0.1	0.1	-0.2	-0.7	....	....
Capacity Utilization (%)	79.6	79.5	79.5	79.8	79.5	78.9	79.6	79.5	79.5	78.9	....	....
ISM Manufacturing Index (g)	47.4	47.7	46.3	47.1	46.9	46.0	46.4	47.6	49.0	46.7	....	....
ISM Nonmanufacturing Index (g)	55.2	55.1	51.2	51.9	50.3	53.9	52.7	54.5	53.6	51.8	....	....
Housing Starts (b)	1.340	1.436	1.380	1.348	1.583	1.418	1.451	1.305	1.346	1.372	....	....
Housing Permits (b)	1.354	1.482	1.437	1.417	1.496	1.441	1.443	1.541	1.471	1.498	....	....
New Home Sales (1-family, c)	649	625	640	679	710	683	728	662	719	679	....	....
Construction Expenditures (a)	2.2	0.4	0.6	0.3	2.0	0.5	0.7	1.0	0.4	....	....	....
Consumer Price Index (nsa, d)	6.4	6.0	5.0	4.9	4.0	3.0	3.2	3.7	3.7	3.2	....	....
CPI ex. Food and Energy (nsa, d)	5.6	5.5	5.6	5.5	5.3	4.8	4.7	4.3	4.1	4.0	....	....
PCE Chain Price Index (d)	5.5	5.2	4.4	4.4	4.0	3.2	3.4	3.4	3.4	3.0	....	....
Core PCE Chain Price Index (d)	4.9	4.8	4.8	4.8	4.7	4.3	4.3	3.8	3.7	3.5	....	....
Producer Price Index (nsa, d)	5.7	4.7	2.7	2.3	1.1	0.3	1.2	2.1	2.2	1.3	....	....
Durable Goods Orders (a)	-1.3	-2.7	3.3	1.2	2.0	4.3	-5.6	-0.1	4.0	-5.4	....	....
Leading Economic Indicators (a)	-0.5	-0.5	-1.2	-0.8	-0.7	-0.7	-0.2	-0.4	-0.7	-0.8	....	....
Balance of Trade & Services (f)	-70.8	-70.6	-60.4	-73.0	-66.8	-63.7	-64.7	-58.7	-61.5	....	....	....
Federal Funds Rate (%)	4.33	4.57	4.65	4.83	5.06	5.08	5.12	5.33	5.33	5.33	....	....
3-Mo. Treasury Bill Rate (%)	4.69	4.79	4.86	5.07	5.31	5.42	5.49	5.56	5.56	5.60	....	....
10-Year Treasury Note Yield (%)	3.53	3.75	3.66	3.46	3.57	3.75	3.90	4.17	4.38	4.80	....	....

2022 Historical Data

Monthly Indicator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Retail and Food Service Sales (a)	1.4	1.4	2.1	1.3	-0.1	0.8	-0.7	0.7	-0.3	1.4	-1.4	-0.7
Auto & Light Truck Sales (b)	14.38	13.67	13.58	14.04	12.94	13.27	13.49	13.50	13.70	14.68	14.27	13.55
Personal Income (a, current $)	-0.3	0.6	0.4	0.3	0.4	0.4	0.8	0.5	0.4	0.5	0.1	0.2
Personal Consumption (a, current $)	0.5	0.7	1.2	0.6	0.4	1.0	0.0	0.8	0.6	0.6	-0.1	0.3
Consumer Credit (e)	4.6	8.3	10.1	7.3	6.9	8.6	6.8	7.0	6.9	8.8	8.1	4.8
Consumer Sentiment (U. of Mich.)	67.2	62.8	59.4	65.2	58.4	50.0	51.5	58.2	58.6	59.9	56.7	59.8
Household Employment (c)	1041	468	738	-346	317	-242	215	422	156	-257	-66	717
Nonfarm Payroll Employment (c)	364	904	414	254	364	370	568	352	350	324	290	239
Unemployment Rate (%)	4.0	3.8	3.6	3.6	3.6	3.6	3.5	3.7	3.5	3.7	3.6	3.5
Average Hourly Earnings (All, cur. $)	31.63	31.63	31.83	31.94	32.06	32.18	32.33	32.43	32.53	32.66	32.80	32.92
Average Workweek (All, hrs.)	34.6	34.7	34.7	34.6	34.6	34.6	34.6	34.5	34.6	34.6	34.5	34.4
Industrial Production (d)	2.3	6.6	4.4	4.6	3.7	3.2	3.0	3.1	4.5	3.1	1.9	0.6
Capacity Utilization (%)	79.4	79.9	80.5	80.7	80.6	80.5	80.7	80.7	80.8	80.6	80.3	78.9
ISM Manufacturing Index (g)	57.6	58.4	57.0	55.9	56.1	53.1	52.7	52.9	51.0	50.0	49.0	48.4
ISM Nonmanufacturing Index (g)	60.4	57.2	58.4	57.5	56.4	56.0	56.4	56.1	55.9	54.5	55.5	49.2
Housing Starts (b)	1.669	1.771	1.713	1.803	1.543	1.561	1.371	1.505	1.463	1.432	1.427	1.357
Housing Permits (b)	1.898	1.817	1.877	1.795	1.708	1.701	1.658	1.586	1.588	1.555	1.402	1.409
New Home Sales (1-family, c)	810	773	707	611	636	563	543	638	567	577	582	636
Construction Expenditures (a)	2.4	1.5	1.4	1.8	-0.1	-0.4	-0.2	-1.2	-0.6	-0.4	0.6	-0.1
Consumer Price Index (nsa, d)	7.5	7.9	8.5	8.3	8.6	9.1	8.5	8.3	8.2	7.7	7.1	6.5
CPI ex. Food and Energy (nsa, d)	6.0	6.4	6.5	6.2	6.0	5.9	5.9	6.3	6.6	6.3	6.0	5.7
PCE Chain Price Index (d)	6.3	6.5	6.9	6.6	6.7	7.1	6.6	6.5	6.6	6.3	5.9	5.4
Core PCE Chain Price Index (d)	5.4	5.6	5.5	5.3	5.1	5.2	5.0	5.2	5.5	5.3	5.1	4.9
Producer Price Index (nsa, d)	10.1	10.4	11.7	11.2	11.1	11.2	9.7	8.7	8.5	8.2	7.4	6.4
Durable Goods Orders (a)	2.0	-1.4	-0.1	1.0	0.7	1.6	-0.8	-0.1	0.3	1.0	-3.1	4.5
Leading Economic Indicators (a)	-0.5	0.3	0.0	-0.6	-0.9	-0.7	-0.6	-0.3	-0.5	-0.9	-0.9	-0.7
Balance of Trade & Services (f)	-86.5	-87.0	-102.5	-86.0	-84.1	-80.9	-71.7	-67.3	-71.7	-78.3	-63.8	-71.4
Federal Funds Rate (%)	0.08	0.08	0.20	0.33	0.77	1.21	1.68	2.33	2.56	3.08	3.78	4.10
3-Mo. Treasury Bill Rate (%)	0.15	0.31	0.45	0.76	0.99	1.54	2.30	2.72	3.22	3.87	4.32	4.36
10-Year Treasury Note Yield (%)	1.76	1.93	2.13	2.75	2.90	3.14	2.90	2.90	3.52	3.98	3.89	3.62

(a) month-over-month % change; (b) millions, saar; (c) month-over-month change, thousands; (d) year-over-year % change; (e) annualized % change; (f) $ billions; (g) level. Most series are subject to frequent government revisions. Use with care.

Calendar of Upcoming Economic Data Releases

Monday	Tuesday	Wednesday	Thursday	Friday
December 4 Manufacturers' Shipments, Inventories & Orders (Oct) BEA Auto Sales (Nov) BEA Truck Sales (Nov) NABE Outlook (Q4)	**5** JOLTS (Oct) ISM Services PMI (Nov) S&P Global Services PMI (Nov)	**6** ADP Employment Report (Nov) Productivity & Costs (Q3) Intl Trade (Oct) Transportation Services Index (Oct) QFR (Q3) Public Debt (Nov) Interest on Public Debt (Nov) EIA Crude Oil Stocks Mortgage Applications	**7** Wholesale Trade (Oct) Treasury Auction Allotments (Nov) Consumer Credit (Oct) Financial Accounts (Q3) Challenger Employment Report (Nov) Weekly Jobless Claims	**8** Employment Situation (Nov) Consumer Sentiment (Dec, Preliminary)
11 Kansas City Financial Stress Index (Nov)	**12** CPI & Real Earnings (Nov) QSS (Q3) Cleveland Fed Median CPI(Nov) Monthly Treasury Statement (Nov) Manpower Survey (Q1) NFIB (Nov) Kansas City Fed Labor Market Conditions Indicators (Nov) FOMC Meeting	**13** Producer Prices (Nov) FOMC Meeting OPEC Crude Oil Spot Prices (Nov) EIA Crude Oil Stocks Mortgage Applications	**14** Advance Retail Sales (Nov) Import & Export Prices (Nov) MTIS (Oct) Weekly Jobless Claims	**15** IP & Capacity Utilization (Nov) ECEC (Q3) Empire State Mfg Survey (Dec) Livingston Survey (Apr) Housing Affordability (Oct)
18 Business Leaders Survey (Dec) Home Builders (Dec)	**19** New Residential Construction (Nov) TIC Data (Oct)	**20** International Transactions (Q3) Existing Home Sales (Nov) Consumer Confidence (Dec) EIA Crude Oil Stocks Mortgage Applications	**21** GDP & Corp Profits (Q3, 3rd Estimate) Philadelphia Fed Mfg Business Outlook Survey (Dec) Kansas City Fed Manufacturing Survey (Dec) Composite Indexes (Nov) Weekly Jobless Claims	**22** Personal Income (Nov) Underlying NIPA Tables (Q3, 3rd Estimate) Advance Durable Goods (Nov) New Residential Sales (Nov) Building Permits (Nov) Consumer Sentiment(Dec, Final) Dallas Fed Trim-Mean PCE (Nov) Treas Auction Allotments (Dec) S&P Global Flash PMIs (Dec)
25 **CHRISTMAS DAY** **ALL MARKETS CLOSED**	**26** FHFA HPI (Oct) Case-Shiller HPI (Oct) H.6 Money Stock (Nov) Philadelphia Fed Nonmfg Business Outlook (Dec) Chicago Fed National Activity Index (Nov) Texas Mfg Outlook (Dec)	**27** Richmond Fed Mfg & Service Sector Surveys (Dec) Texas Service Sector Outlook Survey (Dec) Mortgage Applications	**28** Adv Trade & Inventories (Nov) Intl Investment Position (Q3) Steel Imports for Consumption (Nov, Preliminary) Pending Home Sales (Nov) EIA Crude Oil Stocks Weekly Jobless Claims	**29** Agricultural Prices (Nov) Strike Report (Dec) Chicago PMI (Dec) FRB Philadelphia Coincident Economic Activity Index (Nov)
January 1 **NEW YEAR'S DAY** **ALL MARKETS CLOSED**	**2** Construction (Nov) Dallas Fed Banking Conditions Survey (Nov) S&P Global Mfg PMI (Dec)	**3** ISM Manufacturing (Dec) JOLTS (Nov) Mortgage Applications	**4** ADP Employment Report (Dec) Challenger Employment Report (Dec) S&P Global Services PMI (Dec) BEA Auto & Truck Sales (Dec) EIA Crude Oil Stocks Weekly Jobless Claims	**5** Employment Situation (Dec) MSIO (Nov) Public Debt (Dec) Interest Expense on Public Debt (Dec) ISM Services PMI (Dec)
8 Consumer Credit (Nov)	**9** International Trade (Nov) NFIB (Dec) Kansas City Financial Stress Index (Dec)	**10** Wholesale Trade (Nov) EIA Crude Oil Stocks Mortgage Applications	**11** CPI & Real Earnings (Dec) Cleveland Fed Median CPI(Dec) Monthly Treasury Statement (Dec) Weekly Jobless Claims	**12** Producer Prices (Dec)

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Blue Chip Financial Forecasts®

Top Analysts' Forecasts Of U.S. And Foreign Interest Rates, Currency Values And The Factors That Influence Them

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Fed Still Expected to Cut Rates, Just Later and More Slowly

Expectations of an imminent rate cut from the Fed have faded further in the face of accelerating inflation and the continued resilience demonstrated by the US economy. Both the fed funds futures market and the Blue Chip Financial Forecasts (BCFF) panel have pushed out expectations of the first rate cut. Even Fed Chair Powell has admitted that the recent inflation data have likely pushed out the date of the first FFR cut, noting that "the recent data have clearly not given us greater confidence and instead indicate that it is likely to take longer than expected to achieve that confidence." The FFR futures market now looks for the first cut in September. At the beginning of this year, it had expected the first cut in March. Moreover, the futures market currently expects only a little more than one 25bp rate cut this year. By contrast, in January, it looked for more than six 25bp cuts this year.

First cut in September. While every BCFF panelist but one expects the first FFR cut this year, the panel's forecasted first cut has also been extended significantly with the consensus expecting later and slower rate cuts. Last month, 63% of respondents to a special question expected the first FFR cut in June with another 28% looking for the first cut in July. This month, only 3% of respondents expect the first cut in June with 19% expecting it in July and 63% now anticipating the first cut in September. By contrast, last month, only 3% anticipated the first cut in September.

The panel also looks for a lot less easing in the US over the course of this year with the FFR expected to fall only 56bps (essentially just two 25bp cuts) versus 91bps in last month's survey. Correspondingly, the quarterly average forecasts have been raised by between 26bps and 36bps across the forecast horizon in this month's survey versus last month's. The consensus now expects the FFR to average 4.94% in Q4, up 34bps from 4.60% expected last month. At the end of the six-quarter forecast horizon (Q3 2025), the consensus looks for the FFR to average 3.96%, up 28bps from last month's survey. The change in FFR expectations stands in stark contrast to the panel's expectations concerning policy interest rates in other major economies which this month are expected to fall at about the same pace and amount over the coming year as was expected last month—see the International essay on page 3.

The BCFF panel has also raised its estimate of the neutral FFR, the rate that neither restricts nor stimulates the economy, to 2.84% from 2.79% last month. With the current FFR target of 5.375%, this estimate of neutral indicates that the panel considers the current stance of policy to be very restrictive. However, the economy's persistent resilience and the rebound in inflation may indicate that monetary policy is not as restrictive as previously thought. Indeed, estimates of the neutral rate have been rising since the pandemic. Alternatively, while the neutral rate may indeed be higher than previously estimated, the current economic resilience may simply mean that higher rates have yet to work their way completely through the financial system. Indeed, 70% of panelists think that there is still further meaningful restraint from earlier tightening yet to be felt.

Market rates on the rise. Expectations of FFR cuts further in the future and upside inflation surprises have pushed market interest rates even higher over the past month. The yield on the benchmark 10-year Treasury note has risen nearly 50bps since the end of March and is now threatening to return to the highs of last October. This has led to a meaningful rise in mortgage interest rates, placing even more stress on the housing market. Accordingly, the BCFF consensus has raised its quarterly forecasts of all market rates. Nonetheless, it still expects that the current levels of market yields are around their peaks with rates at every maturity anticipated to fall in each quarter of the six-quarter forecast horizon.

Rebound in inflation. Persistently higher-than-expected inflation has been the fly in the ointment for interest rate expectations. At the beginning of the year, Fed Chair Powell said that the FOMC didn't need better inflation information, just more of the same. However, the subsequent inflation data in 2024 have moved decidedly in the wrong direction. After slowing to 0.6% annualized in the three months to December 2023, three-month headline PCE inflation accelerated sharply during the first quarter to 4.4% annualized in March. While a marked rebound in energy prices and a smaller rebound in food prices were key factors behind the pickup in inflation, the three-month pace of core inflation also accelerated meaningfully, to 4.4% annualized in March from 1.6% in December.

The BCFF consensus had expected a modest rebound in inflation in Q1, but the consensus forecast of 2.3% q/q saar for the PCE price index fell far short of the 3.4% gain posted. Still, the consensus looks for a relatively quick end to the Q1 inflation surge with PCE price inflation falling to 2.9% in the current quarter, 2.3% in Q3 and 2.2% in Q4.

Growth still solid. The weaker-than-expected increase in real GDP in the first quarter would at first blush seem to indicate that the economy's resilience was fading. Real GDP increased 1.6% q/q saar in Q1 versus an expected 2.0% increase. However, the details of the report were not as soft as the headline increase indicated. A marked slowdown in inventory investment and a surge in imports subtracted 1.3%-points from Q1 GDP growth. By contrast, real domestic demand posted a solid, above-trend 2.8% quarterly gain. Household spending (PCE) continued to do the heavy lifting for GDP growth, accounting for 1.7%-points of growth in Q1.

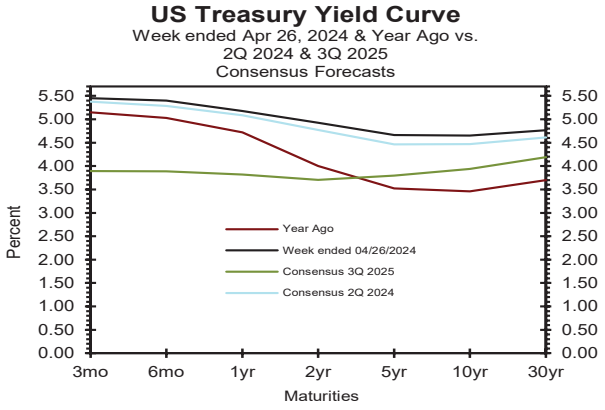
Reflecting the economy's persistent resilience, BCFF forecasters have raised their near-term outlook for GDP. The consensus now looks for 2.0% growth in the current quarter, 1.7% in Q3 and 1.6% in Q4 versus 1.6%, 1.4% and 1.5%, respectively, in last month's survey. Respondents are still generally optimistic. Ninety percent think the economy is still headed for a soft landing, that is, a reduction of inflation to near target without the economy experiencing a recession. Moreover, respondents place only a 30% chance of a recession occurring within the next year, the lowest probability since this question was first asked more than two years ago.

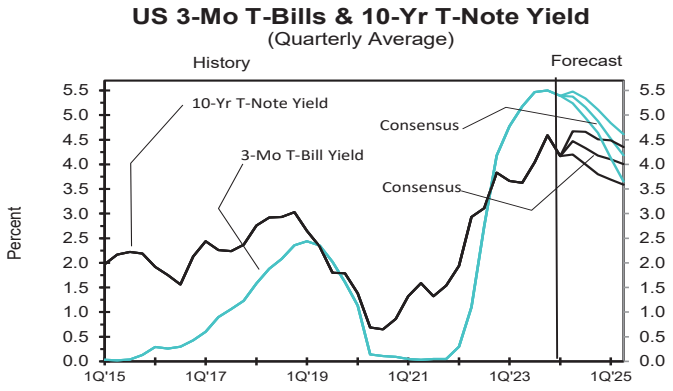
Sandy Batten (Haver Analytics, New York, NY)

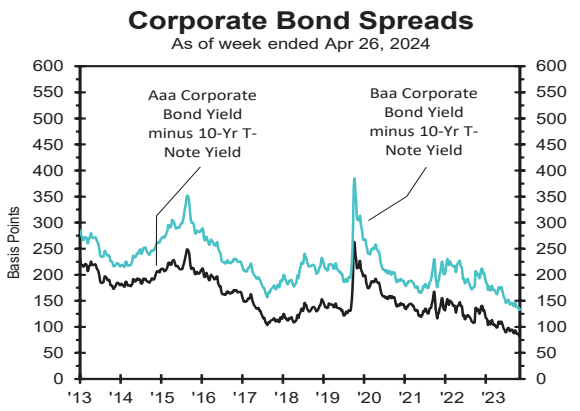
Consensus Forecasts of U.S. Interest Rates and Key Assumptions

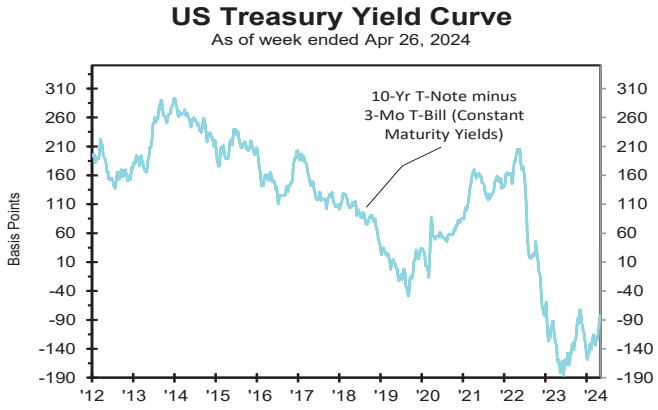
	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month			*Latest Qtr*	2Q	3Q	4Q	1Q	2Q	3Q
Interest Rates	Apr 26	Apr 19	Apr 12	Apr 5	Mar	Feb	Jan	1Q 2024	2024	2024	2024	2025	2025	2025
Federal Funds Rate	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	**5.4**	**5.2**	**4.9**	**4.6**	**4.3**	**4.0**
Prime Rate	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	**8.5**	**8.4**	**8.1**	**7.8**	**7.4**	**7.1**
SOFR	5.31	5.31	5.31	5.33	5.31	5.31	5.32	5.31	**5.3**	**5.2**	**4.9**	**4.6**	**4.3**	**4.0**
Commercial Paper, 1-mo.	5.30	5.33	5.31	5.31	5.32	5.31	5.32	5.32	**5.3**	**5.2**	**4.9**	**4.6**	**4.2**	**3.9**
Treasury bill, 3-mo.	5.45	5.45	5.44	5.42	5.47	5.44	5.45	5.45	**5.4**	**5.2**	**4.9**	**4.5**	**4.2**	**3.9**
Treasury bill, 6-mo.	5.40	5.39	5.37	5.34	5.36	5.28	5.21	5.28	**5.3**	**5.1**	**4.8**	**4.5**	**4.2**	**3.9**
Treasury bill, 1 yr.	5.18	5.17	5.12	5.04	4.99	4.92	4.79	4.90	**5.1**	**4.9**	**4.6**	**4.4**	**4.1**	**3.8**
Treasury note, 2 yr.	4.93	4.96	4.86	4.70	4.59	4.54	4.32	4.48	**4.8**	**4.6**	**4.3**	**4.1**	**3.9**	**3.7**
Treasury note, 5 yr.	4.66	4.66	4.51	4.34	4.20	4.19	3.98	4.12	**4.5**	**4.3**	**4.1**	**4.0**	**3.9**	**3.8**
Treasury note, 10 yr.	4.65	4.63	4.48	4.35	4.21	4.21	4.06	4.16	**4.5**	**4.3**	**4.2**	**4.1**	**4.0**	**3.9**
Treasury note, 30 yr.	4.77	4.74	4.59	4.50	4.36	4.38	4.26	4.33	**4.6**	**4.5**	**4.4**	**4.3**	**4.2**	**4.2**
Corporate Aaa bond	5.48	5.46	5.30	5.21	5.11	5.13	5.01	5.08	**5.3**	**5.2**	**5.1**	**5.0**	**5.0**	**4.9**
Corporate Baa bond	5.98	5.97	5.80	5.73	5.62	5.65	5.53	5.60	**6.1**	**6.1**	**6.0**	**5.9**	**5.9**	**5.8**
State & Local bonds	4.31	4.29	4.27	4.23	4.12	4.12	4.09	4.11	**4.4**	**4.4**	**4.2**	**4.2**	**4.2**	**4.1**
Home mortgage rate	7.17	7.10	6.88	6.82	6.82	6.78	6.64	6.75	**7.0**	**6.8**	**6.6**	**6.5**	**6.3**	**6.2**
	History								Consensus Forecasts-Quarterly					
	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q
Key Assumptions	2022	2022	2022	2023	2023	2023	2023	2024	2024	2024	2024	2025	2025	2025
Fed's AFE $ Index	113.5	118.8	119.8	115.5	114.6	115.0	116.6	115.5	**117.2**	**117.5**	**116.6**	**115.8**	**115.0**	**114.8**
Real GDP	-0.6	2.7	2.6	2.2	2.1	4.9	3.4	1.6	**2.0**	**1.7**	**1.6**	**1.8**	**1.9**	**2.0**
GDP Price Index	9.1	4.4	3.9	3.9	1.7	3.3	1.6	3.1	**2.7**	**2.4**	**2.3**	**2.3**	**2.2**	**2.2**
Consumer Price Index	10.0	5.3	4.0	3.8	3.0	3.4	2.7	3.8	**3.4**	**2.6**	**2.4**	**2.4**	**2.4**	**2.4**
PCE Price Index	7.2	4.7	4.1	4.2	2.5	2.6	1.8	3.4	**2.9**	**2.3**	**2.2**	**2.3**	**2.2**	**2.1**

Forecasts for interest rates and the Federal Reserve's Advanced Foreign Economies Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index, CPI and PCE Price Index are seasonally adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch and are 15+ years, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; SOFR from the New York Fed. All interest rate data are sourced from Haver Analytics. Historical data for Fed's Major Currency Index are from FRSR H.10. Historical data for Real GDP, GDP Price Index and PCE Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index history is from the Department of Labor's Bureau of Labor Statistics (BLS).









----------Policy Rates[1]----------

	History			Consensus Forecasts Months From Now:		
	Latest:	Month Ago:	Year Ago:	3	6	12
U.S.	5.38	5.38	4.88	**5.34**	**5.09**	**4.36**
Japan	0.05	0.05	-0.10	**0.04**	**0.11**	**0.22**
U.K.	5.25	5.25	4.25	**5.03**	**4.69**	**4.14**
Switzerland	1.50	1.50	1.50	**1.25**	**1.10**	**0.94**
Canada	5.00	5.00	4.50	**4.76**	**4.43**	**3.68**
Australia	4.35	4.35	3.60	**4.29**	**4.08**	**3.42**
Euro area	4.50	4.50	3.50	**3.97**	**3.61**	**2.84**

----------10-Yr. Government Bond Yields[2]------

	History			Consensus Forecasts Months From Now:		
	Latest:	Month Ago:	Year Ago:	3	6	12
U.S.	4.67	4.20	3.44	**4.39**	**4.25**	**3.83**
Germany	2.58	2.29	2.33	**2.37**	**2.35**	**2.19**
Japan	0.90	0.75	0.40	**0.89**	**0.97**	**1.06**
U.K.	4.37	3.95	3.74	**4.01**	**3.93**	**3.67**
France	3.07	2.80	2.89	**2.94**	**2.94**	**2.62**
Italy	3.89	3.68	4.18	**3.83**	**3.88**	**3.63**
Switzerland	0.73	0.64	1.08	**0.77**	**0.84**	**0.77**
Canada	3.83	3.47	2.84	**3.65**	**3.57**	**3.30**
Australia	4.40	3.97	3.34	**4.07**	**4.08**	**3.71**
Spain	3.37	3.15	3.42	**3.25**	**3.29**	**3.02**

----------Foreign Exchange Rates[3]----------

	History			Consensus Forecasts Months From Now:		
	Latest:	Month Ago:	Year Ago:	3	6	12
U.S.	118.23	116.49	113.95	**119.3**	**118.5**	**111.8**
Japan	154.55	151.22	135.99	**149.3**	**146.3**	**136.7**
U.K.	1.24	1.26	1.26	**1.26**	**1.26**	**1.26**
Switzerland	0.91	0.90	0.89	**0.91**	**0.91**	**0.89**
Canada	1.37	1.35	1.36	**1.35**	**1.34**	**1.33**
Australia	0.64	0.65	0.66	**0.66**	**0.66**	**0.68**
Euro	1.07	1.08	1.10	**1.08**	**1.08**	**1.10**

	Consensus Policy Rates vs. US Rate			Consensus 10-Year Gov't Yields vs. U.S. Yield	
	Now	In 12 Mo.		Now	In 12 Mo.
Japan	-5.33	**-4.14**	Germany	-2.09	**-1.64**
U.K.	-0.13	**-0.22**	Japan	-3.77	**-2.77**
Switzerland	-3.88	**-3.42**	U.K.	-0.30	**-0.16**
Canada	-0.38	**-0.68**	France	-1.60	**-1.21**
Australia	-1.03	**-0.94**	Italy	-0.78	**-0.20**
Euro area	-0.88	**-1.52**	Switzerland	-3.94	**-3.06**
			Canada	-0.84	**-0.53**
			Australia	-0.27	**-0.12**
			Spain	-1.30	**-0.81**

Forecasts of panel members are on pages 10 and 11. Definitions of variables are as follows: [1]Monetary policy rates. [2]Government bonds are yields to maturity. [3]Foreign exchange rate forecasts for U.K., Australia and the Euro are U.S. dollars per currency unit. For the U.S dollar, forecasts are of the U.S. Federal Reserve Board's AFE Dollar Index.

International. Renewed concerns about the US Fed's inclination to lower interest rates in coming months have sparked some broader anxiety in financial markets over the past few weeks. Heightened geopolitical tensions in the Middle East and their implications for oil prices and broader inflation trends have, in addition, dampened investors' appetite for risk. Indeed, in response to a special question, some 61% of our panelists believe this geopolitical instability poses meaningful downside risks to the global economic outlook. Confidence in a soft landing for the global economy has, in other words, clearly been undermined. However, better-than-expected economic data from most major economies along with some more recent easing of geopolitical tensions between Israel and Iran have, on the whole, left soft landing narratives in vogue. Putting that another way, despite higher bond yields in recent weeks, other asset markets, and most notably equities, have not exhibited any significant weakness.

One potential reason for this is interest rate expectations in other major (i.e., non-US) economies. Looking at this month's BCFF survey compared with last month, for example, reveals little change in the expected scale of policy rate reductions in most major economies in the year ahead. Specifically in Europe, our panelists now expect reductions of approximately 166 and 111 basis points in the ECB's and BoE's respective policy rates over the next 12 months. These figures are little changed compared with last month. The latest survey, nevertheless, also suggests this cycle of interest rate reductions could commence a little later than previously expected. Specifically, 71% of panelists believe that the ECB will start cutting rates in Q2, with most of the remaining 29% projecting Q3. For the BoE, 38% now anticipate a rate cut in Q2, with a further 50% opting for Q3 and just 13% forecasting Q4. Last month's survey suggested a firmer consensus that Q2 would earmark the start of an easing cycle for both central banks.

As short- and long-term US interest rate forecasts have been raised this month compared to last, reflecting the reduced likelihood of a swift easing of US monetary policy, implications for the US dollar have also emerged. The trade-weighted value of the dollar, for example, has increased by around 1.5% since the end of March and by 4.8% since the start of this year. Even so, our panelists still expect the dollar to weaken in the period ahead, and specifically by around *5.5%* over the next 12 months.

As noted earlier, a key factor underpinning investor optimism about the global economy is recent data. For example, April's flash PMI surveys indicated an increasingly broad-based economic expansion across the four major developed economies, albeit with signs of improving growth in Europe and Japan contrasting with a slowdown in the US. That improvement resonates too with incoming data from China. For example, GDP in Q1 2024 grew by 5.3% y/y, up from 5.2% in Q4 2023, and significantly above expectations.

This also chimes with this month's responses to a recurring question about recession risks that we have posed in recent months. For instance, our panelists are now placing a respective 30%, 43% and 44% on the likelihood of a US, euro area and UK recession in the next 12 months. These contrast with last month's survey when those respective probabilities were 35%, 49% and 49%.

Not for the first time, Japan is an outlier in this global discussion. Following last month's decision to increase interest rates and thereby begin a process of monetary normalization, market participants have been keen to ascertain when a next rate hike might occur. But while there appeared to be growing conviction among the Bank of Japan's policy board members at the meeting on April 26th that inflation was on track to durably hit the 2% target in coming years, there was a lack of guidance on a future rate hike path. When asked more specifically when the Bank of Japan will next increase its uncollateralized overnight call rate, 17% of panelists cited Q2 2024, 43% Q3, and 26% Q4. An additional 13%, meanwhile, suggested 2025 or later, highlighting the uncertainty surrounding the Bank of Japan's intentions.

Second Quarter 2024

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter: 1 Federal Funds Rate	2 Prime Bank Rate	3 SOFR Rate	4 Com. Paper 1-Mo.	5 Treas. Bills 3-Mo.	6 Treas. Bills 6-Mo.	7 Treas. Bills 1-Yr.	8 Treas. Notes 2-Yr.	9 Treas. Notes 5-Yr.	10 Treas. Notes 10-Yr.	11 Treas. Bond 30-Yr.	12 Aaa Corp. Bond	13 Baa Corp. Bond	14 State & Local Bonds	15 Home Mtg. Rate	Avg. For Qtr. A. Fed's Adv Fgn Econ $ Index	(Q-Q % Change) (SAAR) B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index
J.P. Morgan Chase	5.5 H	na	na	na	na	na	na	4.5	4.1	4.1	4.3	na	na	na	na	na	1.5	2.6	4.1	3.2
Scotiabank Group	5.5 H	na	5.3	na	5.3	na	na	4.8	4.5	4.5	4.6	na	na	na	na	na	1.6	0.6 L	3.3	2.7
TS Lombard	5.5 H	8.6 H	5.5	5.5 H	5.4	5.5	5.4	5.3 H	4.7	4.8 H	4.9 H	5.6 H	6.5	4.8	6.6	120.0 H	3.5 H	4.0 H	4.0	4.0 H
Bank of America	5.4	na	na	na	na	na	na	4.9	4.5	4.3	4.7	na	na	na	na	na	2.0	3.4	5.0 H	3.7
Barclays	5.4	na	na	na	na	na	na	4.8	4.6	4.7	4.9 H	na	na	na	na	na	2.5	3.4	4.1	3.4
BMO Capital Markets	5.4	8.5	5.3	5.3	5.5	5.4	5.1	4.8	4.5	4.5	4.6	5.3	6.1	4.5	6.9	117.3	1.7	2.6	3.8	3.4
Daiwa Capital Markets America	5.4	8.5	5.4	na	5.4	na	na	4.9	4.5	4.6	4.7	na	na	na	7.0	118.0	1.5	2.9	2.7	2.6
Economist Intelligence Unit	5.4	8.5	na	na	na	na	na	na	na	4.2	na	na	na	na	na	na	2.8	na	2.8	na
Fannie Mae	5.4	8.5	na	na	5.4	5.3	5.1	4.9	4.6	4.6	4.8	na	na	na	7.1	na	1.8	2.6	3.7	2.5
Georgia State University	5.4	8.5	na	na	5.5	5.4	5.1	4.6	4.5	4.5	4.7	5.5	6.5	na	7.1	na	1.5	2.5	2.9	2.6
Goldman Sachs & Co.	5.4	na	na	na	5.3	na	na	4.0 L	3.7 L	4.3	4.0 L	na	na	na	na	na	3.5 H	3.3	4.0	3.1
ING	5.4	na	na	na	na	na	na	4.9	4.8 H	4.8 H	4.9 H	na	na	na	na	na	2.8	na	na	na
KPMG	5.4	8.6 H	5.4	5.2	5.4	5.2	4.9	4.5	4.2	4.3	4.4	5.0	6.0	na	6.8	na	2.1	2.5	3.4	2.3
MacroPolicy Perspectives	5.4	8.5	5.3	5.3	5.4	5.4	5.2	5.1	4.6	4.6	4.7	5.2	6.0	4.3	7.1	118.3	2.1	2.9	3.4	2.5
Nomura Securities, Inc.	5.4	8.5	na	na	na	na	na	4.9	4.4	4.4	na	na	na	na	na	na	1.7	2.5	3.9	3.2
Oxford Economics	5.4	8.5	5.4	na	5.4	5.3	5.0	4.7	4.5	4.5	4.6	4.7 L	na	na	7.1	116.9	2.0	2.2	2.5	2.3
The Lonski Group	5.4	8.5	5.3	5.4	5.5	5.4	5.2	5.0	4.7	4.7	4.7	5.5	6.0	4.5	7.2	118.4	2.1	2.7	3.8	3.5
The Northern Trust Company	5.4	8.5	5.3	5.4	5.4	5.4	5.2	4.9	4.6	4.5	4.7	5.3	6.1	4.6	7.0	116.0	1.7	2.3	3.2	3.0
Wells Fargo	5.4	8.5	5.4	5.4	5.4	4.3 L	5.1	4.8	4.5	4.4	4.5	5.6 H	6.6 H	5.0	7.1	na	1.9	2.9	3.9	2.9
Chan Economics	5.3	8.3 L	5.2 L	5.2	5.5	5.6	5.4	4.8	4.4	4.5	4.6	5.6 H	6.6 H	5.1 H	7.3 H	115.9	2.6	2.4	2.6	2.3
Chmura Economics & Analytics	5.3	8.5	5.3	5.4	5.4	5.4	5.1	4.8	4.5	4.6	4.7	5.3	na	na	6.9	na	0.3 L	3.4	3.5	2.9
Comerica Bank	5.3	8.5	5.3	na	5.4	5.3	5.0	4.8	4.5	4.5	4.7	5.4	6.2	na	7.0	na	1.5	2.4	2.7	2.7
DePrince & Assoc.	5.3	8.4	5.3	5.3	5.4	5.3	5.0	4.9	4.6	4.5	4.6	5.3	6.1	4.3	7.0	117.8	1.4	3.1	3.3	3.0
EY-Parthenon	5.3	na	na	na	5.2	na	na	na	na	4.3	na	na	na	na	na	na	1.8	2.5	3.0	2.4
GLC Financial Economics	5.3	8.4	5.2 L	4.9 L	5.0 L	5.1	4.5 L	4.1	4.0	4.0 L	4.3	5.0	5.8 L	4.2	6.6	115.3	1.7	1.9	2.2 L	2.4
Loomis, Sayles & Company	5.3	8.5	5.3	5.3	5.4	5.4	5.1	4.9	4.6	4.6	4.7	5.3	6.1	4.4	7.1	117.1	1.8	2.7	4.2	2.7
MacroFin Analytics & Rutgers Bus School	5.3	8.5	5.3	5.4	5.4	5.4	5.1	4.7	4.6	4.6	4.7	5.4	6.0	4.3	7.1	118.2	1.1	2.5	2.5	2.4
Moody's Analytics	5.3	8.5	5.3	5.3	5.2	5.1	4.9	4.6	4.2	4.2	4.5	5.2	5.9	3.8	6.6	na	2.0	2.0	2.7	2.0 L
Naroff Economics LLC	5.3	8.3 L	5.3	5.3	5.2	5.2	5.1	4.7	4.6	4.5	4.6	5.4	5.9	4.3	7.0	116.8	2.1	2.8	3.4	3.2
NatWest Markets	5.3	8.5	na	5.4	5.6 H	5.7 H	5.8 H	4.9	4.5	4.5	4.6	5.2	6.1	4.9	6.7	na	1.7	2.5	3.6	3.0
PNC Financial Services Corp.	5.3	8.5	5.3	na	5.3	5.3	5.1	5.0	4.6	4.6	4.6	na	5.8 L	3.7 L	7.1	117.4	1.4	3.0	3.0	2.5
Regions Financial Corporation	5.3	8.5	5.3	5.3	5.4	5.4	5.2	4.9	4.7	4.6	4.8	5.6 H	6.6 H	4.8	7.1	118.0	2.4	2.9	4.0	3.2
Roberts Capital Advisors	5.3	8.5	5.3	5.4	5.4	5.3	5.0	4.7	4.3	4.5	4.7	5.2	6.1	4.5	7.0	115.0 L	2.0	2.6	3.3	2.7
S&P Global Market Intelligence	5.3	8.3 L	5.3	na	5.2	4.8	4.6	4.2	3.9	4.0 L	4.2	na	na	na	6.5 L	na	1.9	2.5	3.4	2.3
Santander Capital Markets	5.3	8.5	5.3	5.3	5.5	5.3	5.0	4.8	4.5	4.5	4.6	5.3	6.0	3.8	7.0	117.8	3.0	2.8	4.3	3.5
Societe Generale	5.3	8.5	5.3	na	5.4	5.3	5.2	5.0	4.6	4.5	4.7	na	na	na	na	na	3.3	1.8	3.8	3.2
Via Nova Investment Mgt.	5.3	8.5	5.3	5.3	5.5	5.4	5.2	4.9	4.7	4.7	4.8	5.6 H	6.2	4.7	7.3 H	116.3	2.5	2.5	2.6	2.5
Action Economics	5.2 L	8.4	5.6 H	5.2	5.3	5.1	4.8	4.7	4.3	4.3	4.4	5.1	5.8 L	4.3	7.3 H	115.5	2.7	3.4	4.0	3.3
May Consensus	**5.4**	**8.5**	**5.3**	**5.3**	**5.4**	**5.3**	**5.1**	**4.8**	**4.5**	**4.5**	**4.6**	**5.3**	**6.1**	**4.4**	**7.0**	**117.2**	**2.0**	**2.7**	**3.4**	**2.9**
Top 10 Avg.	5.4	8.5	5.4	5.4	5.5	5.5	5.3	5.0	4.7	4.7	4.8	5.5	6.4	4.7	7.2	118.1	2.9	3.3	4.2	3.4
Bottom 10 Avg.	5.3	8.4	5.3	5.2	5.2	5.1	4.9	4.5	4.2	4.2	4.4	5.1	5.9	4.1	6.8	116.2	1.4	2.1	2.6	2.3
April Consensus	5.2	8.4	5.3	5.2	5.3	5.1	4.8	4.4	4.1	4.1	4.3	5.0	5.9	4.2	6.7	115.4	1.6	2.4	2.9	2.4
Number of Forecasts Changed From A Month Ago:																				
Down	2	0	2	0	2	1	1	1	1	1	0	0	2	2	2	0	3	4	1	0
Same	15	16	14	9	11	6	3	4	4	5	5	3	2	3	3	3	9	9	5	5
Up	21	15	11	12	18	20	24	31	31	32	29	21	19	15	23	16	26	23	31	31
Diffusion Index	75%	74%	67%	79%	76%	85%	91%	92%	92%	91%	93%	94%	87%	83%	88%	92%	80%	76%	91%	93%

Third Quarter 2024

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter: 1 Federal Funds Rate	2 Prime Bank Rate	3 SOFR Rate	4 Com. Paper 1-Mo.	5 Treas. Bills 3-Mo.	6 Treas. Bills 6-Mo.	7 Treas. Bills 1-Yr.	8 Treas. Notes 2-Yr.	9 Treas. Notes 5-Yr.	10 Treas. Notes 10-Yr.	11 Treas. Bond 30-Yr.	12 Aaa Corp. Bond	13 Baa Corp. Bond	14 State & Local Bonds	15 Home Mtg. Rate	Avg. For Qtr. A. Fed's Adv Fgn Econ $ Index	(Q-Q % Change) (SAAR) B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index
TS Lombard	5.5 H	8.6 H	5.5	5.5 H	5.4 H	5.5 H	5.3	5.0 H	5.2 H	5.3 H	5.4 H	6.1 H	7.0 H	5.3 H	7.1	130.0 H	2.5	4.3 H	4.3 H	4.3 H
Bank of America	5.4	na	na	na	na	na	na	4.7	4.5	4.3	4.7	na	na	na	na	na	2.0	2.6	2.5	2.2
Chmura Economics & Analytics	5.4	8.5	5.4	5.4	5.4 H	5.4	5.1	4.8	4.4	4.5	4.6	5.2	na	na	6.8	na	0.6	3.2	3.2	2.9
J.P. Morgan Chase	5.4	na	na	na	na	na	na	4.5	4.1	4.1	4.4	na	na	na	na	na	1.0	2.4	3.0	2.5
Oxford Economics	5.4	8.5	5.4	na	5.3	5.2	4.9	4.6	4.1	4.2	4.3	4.4 L	na	na	7.0	117.3	1.6	2.5	2.1	2.2
BMO Capital Markets	5.3	8.4	5.3	5.3	5.4 H	5.4	4.9	4.5	4.3	4.3	4.4	5.3	6.2	4.5	6.7	117.5	1.4	1.7	1.8	1.7
Comerica Bank	5.3	8.5	5.3	na	5.2	5.1	4.9	4.7	4.5	4.6	4.8	5.6	6.4	na	7.1	na	1.3	2.1	2.0	1.9
Daiwa Capital Markets America	5.3	8.4	5.3	na	5.2	na	na	4.7	4.4	4.5	4.6	na	na	na	7.0	117.0	0.9	2.5	2.4	2.3
Fannie Mae	5.3	8.4	na	na	5.2	5.1	5.0	4.8	4.6	4.7	4.8	na	na	na	7.1	na	1.6	2.3	2.6	2.2
KPMG	5.3	8.5	5.3	5.1	5.2	5.0	4.6	4.2	3.9	4.0	4.2	4.8	5.9	na	6.5	na	1.7	2.5	2.6	2.2
MacroPolicy Perspectives	5.3	8.5	5.3	5.3	5.2	5.1	4.8	4.4	3.9	4.3	4.7	5.0	6.0	na	6.9	na	2.4	1.5 L	1.7 L	1.1 L
Regions Financial Corporation	5.3	8.5	5.3	5.3	5.3	5.3	5.1	4.9	4.7	4.6	4.8	5.6	6.6	4.8	7.0	118.2	2.2	2.7	2.8	2.6
Santander Capital Markets	5.3	8.5	5.3	5.2	5.3	5.1	4.8	4.8	4.6	4.5	4.6	5.3	6.1	3.7 L	7.0	118.0	1.5	2.7	2.9	2.5
Scotiabank Group	5.3	na	5.1	na	5.0	na	na	4.3	4.4	4.4	4.5	na	na	na	na	na	0.7	3.5	3.2	2.9
Societe Generale	5.3	8.5	5.3	na	5.3	5.3	5.2	4.7	4.4	4.3	4.6	na	na	na	na	na	2.3	1.8	3.8	2.4
The Lonski Group	5.3	8.5	5.3	5.3	5.3	5.3	5.1	4.9	4.6	4.7	4.8	5.6	6.3	4.6	7.2 H	119.5	1.2	2.3	2.8	3.3
The Northern Trust Company	5.3	8.5	5.3	5.3	5.2	5.1	4.9	4.7	4.3	4.2	4.5	5.2	6.0	4.4	6.5	114.5	1.4	2.4	2.8	2.6
Georgia State University	5.2	8.3	na	na	5.1	5.0	4.8	4.5	4.2	4.3	4.5	5.2	6.2	na	7.0	na	1.2	2.3	1.9	1.8
GLC Financial Economics	5.2	8.3	4.8 L	4.8 L	4.6 L	4.6	4.3 L	3.9	3.8	3.9 L	4.2	4.8	5.7	4.2	6.4	114.8	3.9 H	3.5	2.0	2.2
PNC Financial Services Corp.	5.2	8.3	5.2	na	5.0	4.9	4.9	4.9	4.6	4.5	4.5	na	5.8	4.0	6.9	118.7	0.9	2.7	2.6	2.2
Via Nova Investment Mgt.	5.2	8.4	5.2	5.3	5.3	5.3	5.1	4.7	4.5	4.5	4.6	5.5	6.1	4.5	7.1	114.3 L	2.5	2.3	2.4	2.3
Barclays	5.1	na	na	na	na	na	na	4.7	4.5	4.7	4.9	na	na	na	na	na	2.0	2.4	2.4	2.2
Chan Economics	5.1	8.1 L	5.0	5.0	5.3	5.4	5.2	4.6	4.2	4.3	4.4	5.4	6.4	4.9	7.1	115.9	2.5	2.3	2.5	2.2
DePrince & Assoc.	5.1	8.2	5.2	5.1	5.2	5.2	4.9	4.8	4.6	4.5	4.6	5.5	6.3	4.6	6.9	117.1	1.5	2.9	3.1	2.8
Economist Intelligence Unit	5.1	8.3	na	na	na	na	na	na	na	3.9 L	na	na	na	na	na	na	1.8	na	2.6	na
EY-Parthenon	5.1	na	na	na	4.9	na	na	na	na	4.0	na	na	na	na	na	na	1.2	2.0	1.8	2.0
Goldman Sachs & Co.	5.1	na	na	na	5.0	na	na	3.8 L	3.7 L	4.3	4.1 L	na	na	na	na	na	2.5	2.2	2.6	2.2
ING	5.1	na	na	na	na	na	na	4.1	4.0	4.0	4.2	na	na	na	na	na	0.3 L	na	na	na
Loomis, Sayles & Company	5.1	8.2	5.0	5.0	5.1	5.0	4.8	4.6	4.4	3.9 L	4.2	4.6	5.4 L	3.7 L	6.4	116.8	1.7	2.3	3.0	2.1
MacroFin Analytics & Rutgers Bus School	5.1	8.3	5.1	5.3	5.2	5.3	4.9	4.5	4.5	4.5	4.6	5.4	6.0	4.2	7.0	118.1	1.3	2.2	2.3	2.4
Moody's Analytics	5.1	8.3	5.1	5.1	4.9	4.8	4.7	4.5	4.2	4.2	4.5	5.5	6.2	4.0	6.5	na	1.9	1.9	2.3	2.0
Naroff Economics LLC	5.1	8.1 L	5.3	5.2	5.1	4.9	4.8	4.5	4.2	4.4	4.3	5.1	5.6	4.2	6.8	115.9	3.6	2.7	3.2	3.0
NatWest Markets	5.1	8.3	na	5.2	5.4 H	5.5 H	5.6 H	4.5	4.3	4.3	4.5	4.9	5.8	4.6	6.4	na	0.5	1.9	1.7 L	1.7
Nomura Securities, Inc.	5.1	8.3	na	na	na	na	na	4.6	4.3	4.4	na	na	na	na	na	na	1.7	2.1	2.4	2.2
Roberts Capital Advisors	5.1	8.3	5.1	5.2	5.2	5.1	4.8	4.6	4.3	4.3	4.6	5.0	5.9	4.5	6.8	115.0	1.8	2.5	2.9	2.6
S&P Global Market Intelligence	5.1	8.1 L	5.0	na	4.8	4.5 L	4.3 L	3.9	3.7 L	3.9 L	4.1 L	na	na	na	6.3 L	na	1.9	2.5	2.7	2.3
Wells Fargo	5.1	8.3	5.2	5.1	5.1	5.0	4.7	4.4	4.2	4.2	4.4	5.4	6.4	4.8	6.8	na	1.6	2.0	2.5	2.0
Action Economics	5.0 L	8.2	5.6 H	5.0	5.0	4.8	4.6	4.5	4.1	4.1	4.3	4.9	5.7	4.2	7.2 H	116.9	2.5	2.3	3.0	2.2
May Consensus	**5.2**	**8.4**	**5.2**	**5.2**	**5.2**	**5.1**	**4.9**	**4.6**	**4.3**	**4.3**	**4.5**	**5.2**	**6.1**	**4.4**	**6.8**	**117.5**	**1.7**	**2.4**	**2.6**	**2.3**
Top 10 Avg.	5.4	8.5	5.4	5.3	5.3	5.4	5.2	4.8	4.6	4.7	4.8	5.6	6.4	4.7	7.1	119.1	2.7	3.1	3.3	3.0
Bottom 10 Avg.	5.1	8.2	5.1	5.1	4.9	4.9	4.6	4.2	4.0	4.0	4.2	4.9	5.8	4.1	6.5	115.8	0.9	1.9	2.0	1.9
April Consensus	5.0	8.1	5.0	4.9	4.9	4.8	4.5	4.1	3.9	4.0	4.2	4.9	5.8	4.2	6.5	114.8	1.4	2.3	2.4	2.2
Number of Forecasts Changed From A Month Ago:																				
Down	0	1	1	0	2	1	1	1	1	1	0	2	2	3	2	1	7	5	7	2
Same	9	7	7	4	8	4	4	5	5	8	9	6	8	4	4	3	8	6	5	9
Up	29	23	19	17	21	22	23	30	30	29	25	16	13	12	22	14	23	25	25	25
Diffusion Index	88%	85%	83%	90%	81%	89%	89%	90%	90%	87%	87%	79%	74%	74%	86%	86%	71%	78%	74%	82%

Fourth Quarter 2024

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter															Avg. For	(Q-Q % Change) (SAAR)			
	Short-Term							Intermediate-Term			Long-Term									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	A.	B.	C.	D.	E.
	Federal Funds Rate	Prime Bank Rate	SOFR Rate	Com. Paper 1-Mo.	Treas. Bills 3-Mo.	Treas. Bills 6-Mo.	Treas. Bills 1-Yr.	Treas. Notes 2-Yr.	Treas. Notes 5-Yr.	Treas. Notes 10-Yr.	Treas. Bond 30-Yr.	Aaa Corp. Bond	Baa Corp. Bond	State & Local Bonds	Home Mtg. Rate	Fed's Adv Fgn Econ $ Index	Real GDP	GDP Price Index	Cons. Price Index	PCE Price Index
Societe Generale	5.3 H	8.5 H	5.3	na	5.3 H	5.2	5.0	4.5	4.4	4.3	4.6	na	na	na	na	na	2.7 H	1.8 L	3.8 H	2.5
Chmura Economics & Analytics	5.2	8.3	5.2	5.2 H	5.3 H	5.3 H	5.0	4.8	4.3	4.3	4.5	5.2	na	na	6.7	na	1.8	2.9	3.0	2.8
Bank of America	5.1	na	na	na	na	na	na	4.5	4.4	4.3	4.8 H	na	na	na	na	na	2.0	2.1	1.9	1.7
Barclays	5.1	na	na	na	na	na	na	4.5	4.5	4.6	4.8 H	na	na	na	na	na	1.5	2.0	1.7	1.6
J.P. Morgan Chase	5.1	na	na	na	na	na	na	4.3	4.0	4.1	4.3	na	na	na	na	na	1.0	2.3	2.4	2.0
KPMG	5.1	8.3	5.1	4.8	4.9	4.7	4.4	4.0	3.6	3.8	4.0	4.5	6.0	na	6.2	na	1.8	2.4	2.0	2.0
MacroPolicy Perspectives	5.1	8.2	5.0	5.0	5.0	4.9	4.6	3.9	3.6	4.3	4.7	5.0	6.0	na	6.5	na	2.6	1.9	2.0	1.5 L
Santander Capital Markets	5.1	8.3	5.1	5.0	4.8	4.6	4.4	4.4	4.3	4.2	4.4	5.1	5.9	3.5 L	6.6	117.0	1.1	2.5	2.5	2.1
The Northern Trust Company	5.1	8.2	5.0	5.1	4.9	4.8	4.5	4.4	4.2	4.1	4.4	5.2	6.2	4.5	6.4	113.5	1.2	2.4	2.4	2.2
BMO Capital Markets	5.0	8.2	5.0	5.0	5.2	5.1	4.7	4.3	4.2	4.1	4.2	5.1	5.9	4.2	6.5	117.3	1.6	2.1	2.4	2.3
Comerica Bank	5.0	8.2	5.0	na	4.9	4.8	4.6	4.5	4.5	4.6	4.8 H	5.7 H	6.5 H	na	7.0	na	1.7	2.0	1.8	1.8
Daiwa Capital Markets America	5.0	8.1	5.0	na	5.0	na	na	4.5	4.3	4.4	4.6	na	na	na	6.9	116.0	0.8	2.4	2.4	2.3
Fannie Mae	5.0	8.1	na	na	5.0	5.0	4.8	4.7	4.6 H	4.7 H	4.8 H	na	na	na	7.0	na	1.6	2.3	2.5	2.2
GLC Financial Economics	5.0	8.2	4.2 L	4.3 L	4.3 L	4.2 L	4.0 L	3.7	3.7	3.8	4.1	4.8	5.6	4.1	6.3	114.3	1.8	3.0	2.0	2.2
Oxford Economics	5.0	8.2	5.0	na	5.0	4.9	4.6	4.3	4.0	4.2	4.2	4.3 L	na	na	6.9	116.8	1.7	2.5	2.2	1.8
PNC Financial Services Corp.	5.0	8.1	5.0	na	4.8	4.7	4.7	4.7	4.4	4.4	4.4	na	5.8	4.2	6.7	119.3	1.1	2.5	2.4	2.1
Regions Financial Corporation	5.0	8.2	5.0	5.1	5.2	5.2	4.9	4.6	4.6 H	4.5	4.7	5.5	6.5 H	4.7 H	6.7	117.9	2.4	2.6	2.8	2.6
Scotiabank Group	5.0	na	4.8	na	4.6	na	na	4.1	4.2	4.3	4.4	na	na	na	na	na	1.7	2.1	3.3	3.1
The Lonski Group	5.0	8.1	4.9	5.0	5.0	4.9	4.8	4.6	4.3	4.5	4.4	5.3	6.1	4.3	7.1 H	120.5 H	1.2	2.2	2.5	2.6
TS Lombard	5.0	8.1	5.0	5.0	4.9	5.0	5.0	5.0 H	3.9	4.0	4.1	4.9	5.7	4.0	5.8 L	120.0	2.0	3.8 H	3.8 H	3.8 H
Chan Economics	4.9	7.9	4.8	4.8	5.1	5.2	5.0	4.4	4.0	4.1	4.2	5.2	6.2	4.7 H	6.9	115.7	1.6	2.1	2.3	2.0
DePrince & Assoc.	4.9	8.0	4.9	4.9	4.9	4.9	4.6	4.7	4.6 H	4.5	4.6	5.6	6.5 H	4.7 H	6.7	116.4	1.6	2.8	3.0	2.7
Economist Intelligence Unit	4.9	8.0	na	na	na	na	na	na	na	3.6	na	na	na	na	na	na	1.3	na	2.6	na
EY-Parthenon	4.9	na	na	na	4.7	na	na	na	na	3.9	na	na	na	na	na	na	1.6	2.1	1.9	2.1
Goldman Sachs & Co.	4.9	na	na	na	4.8	na	na	3.7	3.7	4.3	4.2	na	na	na	na	na	2.4	1.9	2.5	1.9
Naroff Economics LLC	4.9	7.9	4.8	4.9	4.7	4.6	4.6	4.4	4.0	4.1	4.2	4.9	5.5	4.1	6.5	115.2	2.2	2.6	3.0	2.9
Nomura Securities, Inc.	4.9	8.0	na	na	na	na	na	4.3	4.3	4.4	na	na	na	na	na	na	1.8	1.9	2.4	2.3
Via Nova Investment Mgt.	4.9	8.2	5.0	5.0	4.9	4.9	4.9	4.3	4.3	4.3	4.4	5.4	6.1	4.3	6.9	112.7 L	2.5	2.1	2.1	2.1
Action Economics	4.8	7.9	5.4 H	4.7	4.8	4.6	4.4	4.3	4.1	4.0	4.2	4.8	5.6	4.1	7.1 H	117.0	2.2	2.1	2.8	2.1
Georgia State University	4.8	7.9	na	na	4.6	4.3	4.2	4.4	4.0	4.1	4.3	5.1	6.1	na	6.9	na	0.8	2.2	1.5 L	1.6
Loomis, Sayles & Company	4.8	7.9	4.7	4.7	4.8	4.7	4.4	4.1	4.0	3.7	3.9 L	4.4	5.2 L	3.5 L	6.1	116.7	1.5	2.5	2.6	2.1
Moody's Analytics	4.8	8.0	4.8	4.7	4.6	4.6	4.5	4.4	4.2	4.2	4.6	5.6	6.3	4.1	6.4	na	1.5	2.1	2.4	2.3
Roberts Capital Advisors	4.8	8.0	4.8	4.9	4.9	4.8	4.6	4.4	4.2	4.2	4.6	4.9	5.8	4.4	6.6	114.5	1.8	2.4	2.7	2.5
S&P Global Market Intelligence	4.8	7.8 L	4.8	na	4.6	4.2 L	4.0 L	3.7	3.5	3.7	4.0	na	na	na	6.0	na	1.8	2.4	2.0	2.1
Wells Fargo	4.8	8.0	4.9	4.8	4.9	4.7	4.5	4.1	3.9	4.0	4.3	5.2	6.2	4.6	6.5	na	1.5	2.0	2.5	2.0
ING	4.7	na	na	na	na	na	na	3.4 L	3.4 L	3.5 L	3.9 L	na	na	na	na	na	0.6	na	na	na
MacroFin Analytics & Rutgers Bus School	4.6 L	7.8 L	4.6	4.7	4.7	4.8	4.7	4.3	4.4	4.5	4.6	5.3	5.9	4.0	6.8	118.0	1.6	2.1	2.1	2.2
NatWest Markets	4.6 L	7.8 L	na	4.7	4.9	5.0	5.1 H	4.1	4.1	4.1	4.4	4.8	5.7	4.5	6.3	na	0.5 L	2.0	2.3	1.8
May Consensus	**4.9**	**8.1**	**4.9**	**4.9**	**4.9**	**4.8**	**4.6**	**4.3**	**4.1**	**4.2**	**4.4**	**5.1**	**6.0**	**4.2**	**6.6**	**116.6**	**1.6**	**2.3**	**2.4**	**2.2**
Top 10 Avg.	5.1	8.3	5.1	5.0	5.1	5.1	4.9	4.7	4.5	4.5	4.7	5.4	6.3	4.5	7.0	118.1	2.3	2.8	3.1	2.8
Bottom 10 Avg.	4.8	7.9	4.7	4.7	4.6	4.5	4.3	3.9	3.7	3.8	4.1	4.7	5.7	4.0	6.3	115.2	1.0	2.0	1.9	1.8
April Consensus	4.6	7.7	4.6	4.5	4.5	4.5	4.2	3.9	3.8	3.9	4.2	4.9	5.8	4.1	6.4	114.3	1.5	2.2	2.3	2.1
Number of Forecasts Changed From A Month Ago:																				
Down	0	0	1	1	1	1	1	1	1	2	1	3	5	3	0	1	8	3	3	4
Same	6	7	5	4	5	3	4	4	7	12	12	8	7	7	9	3	12	13	15	15
Up	32	24	21	16	25	23	23	31	28	24	21	13	11	9	19	14	18	20	19	17
Diffusion Index	92%	89%	87%	86%	89%	91%	89%	92%	88%	79%	79%	71%	63%	66%	84%	86%	63%	74%	72%	68%

First Quarter 2025

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter: 1 Federal Funds Rate	2 Prime Bank Rate	3 SOFR Rate	4 Com. Paper 1-Mo.	5 Treas. Bills 3-Mo.	6 Treas. Bills 6-Mo.	7 Treas. Bills 1-Yr.	8 Treas. Notes 2-Yr.	9 Treas. Notes 5-Yr.	10 Treas. Notes 10-Yr.	11 Treas. Bond 30-Yr.	12 Aaa Corp. Bond	13 Baa Corp. Bond	14 State & Local Bonds	15 Home Mtg. Rate	Avg. For ---Qtr.--- A. Fed's Adv Fgn Econ $ Index	(Q-Q % Change) (SAAR) B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index
Societe Generale	5.3 H	8.5 H	5.3 H	na	5.2 H	5.0 H	4.8	4.3	3.6	3.9	4.2	na	na	na	na	na	2.5	2.0	3.8 H	2.5
Bank of America	4.9	na	na	na	na	na	na	4.3	4.3	4.3	4.8	na	na	na	na	na	2.0	2.5	2.5	2.3
Barclays	4.9	na	na	na	na	na	na	4.4	4.4	4.6	4.8	na	na	na	na	na	1.5	2.4	2.4	2.2
Chmura Economics & Analytics	4.9	8.0	4.9	4.9 H	5.0	5.0 H	4.9 H	4.7	4.3	4.3	4.5	5.1	na	na	6.6	na	2.8	2.8	2.9	2.6
BMO Capital Markets	4.8	7.9	4.8	4.8	4.9	4.9	4.6	4.2	4.1	4.0	4.1	5.0	5.8	4.1	6.4	117.0	2.0	2.0	2.2	2.1
Comerica Bank	4.8	8.0	4.8	na	4.7	4.6	4.3	4.2	4.3	4.4	4.8	5.6	6.5 H	na	6.9	na	1.7	2.1	2.1	2.3
Daiwa Capital Markets America	4.8	7.9	4.8	na	4.7	na	na	4.3	4.2	4.3	4.5	na	na	na	6.7	116.0	1.2	2.3	2.3	2.2
GLC Financial Economics	4.8	7.9	3.9 L	4.0 L	4.0	3.7	3.8	3.6	3.6	3.8	4.0	4.7	5.5	4.1	6.2	114.1	2.0	2.5	2.3	2.2
J.P. Morgan Chase	4.8	na	na	na	na	na	na	4.1	3.8	4.0	4.3	na	na	na	na	na	2.0	2.3	2.3	1.9
KPMG	4.8	8.0	4.8	4.5	4.6	4.4	4.2	3.8	3.5	3.6	3.9	4.4	5.7	na	5.8 L	na	1.8	2.3	1.4 L	1.8
MacroPolicy Perspectives	4.8	8.0	4.8	4.8	4.7	4.6	4.3	3.4 L	3.5	4.3	4.7	5.0	6.0	na	6.4	na	2.2	na	na	na
Oxford Economics	4.8	8.0	4.8	na	4.8	4.7	4.4	4.2	3.9	4.1	4.1	4.2 L	na	na	6.8	116.4	1.8	2.3	2.3	2.2
Regions Financial Corporation	4.8	8.0	4.8	4.8	4.8	4.8	4.8	4.2	4.2	4.4	4.6	5.3	6.3	4.6	6.5	117.6	2.4	2.5	2.3	2.3
The Northern Trust Company	4.8	8.0	4.8	4.9 H	4.7	4.5	4.3	4.0	4.1	4.1	4.4	5.4	6.5 H	4.5	6.4	112.5	1.3	2.4	2.4	2.2
Via Nova Investment Mgt.	4.8	8.0	4.8	4.9 H	4.7	4.8	4.9 H	4.4	4.6	4.6	4.6	5.7 H	6.3	4.6	7.2 H	112.0	2.5	2.1	2.0	2.1
PNC Financial Services Corp.	4.7	7.8	4.7	na	4.5	4.5	4.4	4.4	4.3	4.3	4.3	na	5.9	4.4	6.5	119.7	1.5	2.4	2.2	1.9
Chan Economics	4.6	7.6	4.5	4.5	4.8	4.9	4.7	4.1	3.7	3.8	3.9	4.9	5.9	4.4	6.6	115.0	1.0 L	2.1	2.3	2.0
DePrince & Assoc.	4.6	7.7	4.6	4.6	4.6	4.7	4.4	4.5	4.5	4.5	4.6	5.6	6.5 H	4.8 H	6.6	116.1	1.8	2.7	2.9	2.6
Economist Intelligence Unit	4.6	7.8	na	na	na	na	na	na	na	3.4 L	na	na	na	na	na	na	1.3	na	2.2	na
Goldman Sachs & Co.	4.6	na	na	na	4.6	na	na	3.6	3.7	4.2	4.2	na	na	na	na	na	2.0	3.3	3.0	3.1
Loomis, Sayles & Company	4.6	7.7	4.5	4.5	4.6	4.5	4.2	3.8	3.6	3.5	3.8 L	4.2 L	5.0 L	3.3 L	5.8 L	116.6	1.6	2.4	2.7	2.2
Moody's Analytics	4.6	7.8	4.6	4.5	4.4	4.3	4.3	4.2	4.1	4.1	4.5	5.6	6.4	4.1	6.3	na	1.6	2.3	2.4	2.3
Nomura Securities, Inc.	4.6	7.8	na	na	na	na	na	4.1	4.2	4.3	na	na	na	na	na	na	2.2	1.9	2.6	2.3
Roberts Capital Advisors	4.6	7.8	4.6	4.7	4.7	4.6	4.4	4.3	4.1	4.2	4.5	4.8	5.7	4.3	6.5	114.5	1.9	2.4	2.7	2.5
Santander Capital Markets	4.6	7.8	4.6	4.6	4.2	4.1	4.0	4.1	4.0	3.9	4.1	4.8	5.7	3.3 L	6.2	116.0	1.3	2.8	2.4	2.1
Wells Fargo	4.6	7.8	4.7	4.6	4.6	4.5	4.2	3.9	3.8	3.9	4.2	5.1	6.1	4.5	6.3	na	1.9	2.2	2.4	2.2
Action Economics	4.5	7.7	5.1	4.5	4.5	4.4	4.1	4.1	4.0	4.0	4.1	4.8	5.5	4.0	7.0	117.2	2.1	2.0	2.8	2.1
EY-Parthenon	4.5	na	na	na	4.2	na	na	na	na	3.9	na	na	na	na	na	na	1.9	2.0	2.2	1.8
Fannie Mae	4.5	7.7	na	na	4.8	4.8	4.7	4.7	4.6	4.6	4.8	na	na	na	6.9	na	1.7	2.3	2.4	2.2
Scotiabank Group	4.5	na	4.3	na	4.1	na	na	3.8	4.2	4.2	4.3	na	na	na	na	na	1.5	1.5 L	2.7	2.5
TS Lombard	4.5	7.6	4.5	4.5	4.4	4.5	4.6	4.8 H	4.7 H	4.8 H	4.9 H	5.7 H	6.5 H	4.8 H	6.6	110.0 L	1.0 L	3.5 H	3.5	3.5 H
S&P Global Market Intelligence	4.4	7.3	4.3	na	4.1	3.8	3.7	3.4 L	3.3 L	3.6	3.9	na	na	na	5.8 L	na	1.7	2.3	1.5	1.8
Naroff Economics LLC	4.3	7.3	4.3	4.5	4.3	4.3	4.3	4.3	3.9	4.0	4.1	4.9	5.4	4.0	6.2	114.5	3.0 H	2.5	2.7	2.7
The Lonski Group	4.3	7.4	4.3	4.3	4.3	4.2	4.3	4.4	4.3	4.2	4.3	5.3	6.1	4.3	6.8	121.0 H	1.4	2.2	1.4 L	1.9
ING	4.1	na	na	na	na	na	na	3.4 L	3.6	3.8	4.2	na	na	na	na	na	1.3	na	na	na
MacroFin Analytics & Rutgers Bus School	4.1	7.3	4.1	4.2	4.1	4.3	4.5	4.1	4.3	4.4	4.5	5.3	5.9	3.9	6.5	117.9	2.0	2.0	2.0	2.2
NatWest Markets	4.1	7.3	na	4.2	4.4	4.5	4.6	3.8	4.0	4.0	4.3	4.8	5.7	4.5	6.3	na	1.5	2.2	2.8	2.6
Georgia State University	3.8 L	6.9 L	na	na	3.6 L	3.3 L	3.2 L	3.4 L	3.3 L	3.6	3.9	4.5	5.6	na	6.3	na	1.3	2.2	1.4 L	1.4 L
May Consensus	**4.6**	**7.8**	**4.6**	**4.6**	**4.5**	**4.5**	**4.4**	**4.1**	**4.0**	**4.1**	**4.3**	**5.0**	**5.9**	**4.2**	**6.5**	**115.8**	**1.8**	**2.3**	**2.4**	**2.3**
Top 10 Avg.	4.9	8.0	4.9	4.8	4.8	4.8	4.7	4.5	4.4	4.5	4.7	5.5	6.3	4.5	6.8	117.6	2.4	2.8	3.0	2.7
Bottom 10 Avg.	4.3	7.4	4.3	4.4	4.1	4.1	4.0	3.6	3.5	3.7	4.0	4.6	5.6	3.9	6.1	114.1	1.3	2.0	1.8	1.9
April Consensus	4.2	7.4	4.3	4.2	4.2	4.1	3.9	3.7	3.7	3.9	4.1	4.8	5.8	4.1	6.2	114.1	1.7	2.2	2.3	2.2
Number of Forecasts Changed From A Month Ago:																				
Down	0	0	2	0	2	1	2	1	1	2	2	2	5	2	2	1	7	3	6	6
Same	7	7	4	6	6	3	4	6	8	11	10	10	6	6	6	3	16	15	15	16
Up	31	24	21	15	23	23	22	28	25	24	20	12	11	10	19	14	15	17	15	13
Diffusion Index	91%	89%	85%	86%	84%	91%	86%	89%	85%	80%	78%	71%	64%	72%	81%	86%	61%	70%	63%	60%

Second Quarter 2025

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter															Avg. For	(Q-Q % Change) (SAAR)			
	Short-Term							Intermediate-Term			Long-Term					Qtr.				
	1 Federal Funds Rate	2 Prime Bank Rate	3 SOFR Rate	4 Com. Paper 1-Mo.	5 Treas. Bills 3-Mo.	6 Treas. Bills 6-Mo.	7 Treas. Bills 1-Yr.	8 Treas. Notes 2-Yr.	9 Treas. Notes 5-Yr.	10 Treas. Notes 10-Yr.	11 Treas. Bond 30-Yr.	12 Aaa Corp. Bond	13 Baa Corp. Bond	14 State & Local Bonds	15 Home Mtg. Rate	A. Fed's Adv Fgn Econ $ Index	B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index
Societe Generale	5.0 H	8.2 H	5.0 H	na	4.9 H	4.8 H	4.5	4.1	3.5	3.8	4.1	na	na	na	na	na	2.7	2.0	3.8 H	2.3
Bank of America	4.6	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.0	2.5	2.5	2.2
Barclays	4.6	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.5	2.5	2.6	2.3
KPMG	4.6	7.8	4.6	4.2	4.3	4.2	3.9	3.6	3.3	3.4	3.8	4.2	5.6	na	5.5 L	na	1.9	2.4	2.4	2.2
MacroPolicy Perspectives	4.6	7.8	4.6	4.6 H	4.5	4.4	4.0	3.2	3.5	4.1	4.7	5.0	6.0	na	6.1	na	2.2	na	na	na
Oxford Economics	4.6	7.7	4.6	na	4.5	4.5	4.2	3.9	3.7	3.9	4.0	4.1 L	na	na	6.5	115.9	1.8	2.1	2.3	2.2
BMO Capital Markets	4.5	7.7	4.5	4.5	4.6	4.6	4.4	4.1	4.1	4.0	4.1	5.0	5.9	4.2	6.4	116.8	1.9	2.0	2.3	2.1
Chmura Economics & Analytics	4.5	7.7	4.5	4.6 H	4.6	4.6	4.6	4.6	4.3	4.3	4.5	5.1	na	na	6.5	na	3.4 H	2.6	2.7	2.4
Comerica Bank	4.5	7.7	4.6	na	4.4	4.3	4.0	3.9	4.1	4.3	4.6	5.5	6.4	na	6.6	na	1.7	2.1	2.2	2.1
Daiwa Capital Markets America	4.5	7.6	4.5	na	4.5	na	na	4.1	4.0	4.2	4.4	na	na	na	6.5	116.0	1.6	2.3	2.2	2.1
J.P. Morgan Chase	4.5	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.3	2.3	1.9	1.7 L
PNC Financial Services Corp.	4.5	7.6	4.4	na	4.2	4.2	4.2	4.2	4.2	4.2	4.2	na	5.9	4.5	6.3	119.6	1.8	2.3	2.2	1.9
Regions Financial Corporation	4.5	7.7	4.6	4.6 H	4.6	4.6	4.6	3.9	4.0	4.3	4.5	5.2	6.1	4.5	6.4	117.4	2.3	2.3	2.4	2.4
Roberts Capital Advisors	4.5	7.7	4.5	4.6 H	4.6	4.5	4.3	4.1	4.1	4.2	4.5	4.8	5.7	4.3	6.4	114.5	2.0	2.3	2.6	2.4
The Northern Trust Company	4.5	7.7	4.5	4.6 H	4.4	4.2	4.0	3.8	3.9	4.0	4.3	5.3	6.4	4.4	6.3	111.5	1.6	2.4	2.3	2.1
Via Nova Investment Mgt.	4.5	7.8	4.5	4.6 H	4.4	4.5	4.6	4.3	4.5	4.5	4.6	5.6	6.2	4.5	7.1 H	112.0	2.5	2.0	2.0	2.1
Chan Economics	4.4	7.4	4.3	4.3	4.6	4.7	4.5	3.9	3.5	3.6	3.7 L	4.7	5.7	4.2	6.4	114.7	0.8	2.1	2.3	2.0
DePrince & Assoc.	4.4	7.5	4.4	4.4	4.4	4.4	4.2	4.4	4.5	4.5	4.6	5.7 H	6.5 H	4.8 H	6.5	115.9	2.0	2.5	2.7	2.5
Economist Intelligence Unit	4.4	7.5	na	na	na	na	na	na	na	3.1 L	na	na	na	na	na	na	1.5	na	2.5	na
GLC Financial Economics	4.4	7.5	3.7	3.8	3.9	3.8	3.7	3.6	3.6	3.8	4.1	4.8	5.7	4.0	6.1	114.0	1.0	3.4 H	2.2	2.2
Goldman Sachs & Co.	4.4	na	na	na	4.3	na	na	3.6	3.7	4.2	4.2	na	na	na	na	na	2.1	1.9	2.6	2.0
Moody's Analytics	4.4	7.6	4.3	4.3	4.1	4.1	4.2	4.1	4.0	4.1	4.5	5.6	6.5 H	4.1	6.2	na	1.6	2.3	2.5	2.3
Nomura Securities, Inc.	4.4	7.5	na	na	na	na	na	3.9	4.1	4.3	na	na	na	na	na	na	2.4	1.6	2.5	2.1
Wells Fargo	4.4	7.5	4.4	4.4	4.4	4.2	4.0	3.7	3.7	3.9	4.1	5.1	6.1	4.5	6.2	na	2.2	2.0	2.2	2.0
Action Economics	4.3	7.4	4.9	4.3	4.3	4.1	3.9	3.9	3.9	3.9	4.1	4.7	5.5	4.0	7.0	117.4	2.0	2.2	2.9	2.1
Fannie Mae	4.2	7.3	na	na	4.7	4.7	4.7 H	4.7 H	4.6 H	4.6 H	4.8 H	na	na	na	6.8	na	1.9	2.3	2.6	2.3
Loomis, Sayles & Company	4.1	7.3	4.1	4.0	4.1	4.1	3.9	3.6	3.5	3.8	3.8	4.5	5.3 L	3.6	6.0	116.5	1.7	2.3	2.5	2.1
Santander Capital Markets	4.1	7.3	4.1	4.1	3.7	3.6	3.5	3.9	3.8	3.7	3.8	4.6	5.5	3.1 L	6.0	115.0	1.5	2.5	2.4	2.1
EY-Parthenon	4.0	na	na	na	3.7	na	na	na	na	3.8	na	na	na	na	na	na	1.8	2.2	2.2	2.1
Scotiabank Group	4.0	na	3.8	na	3.7	na	na	3.6	4.1	4.1	4.3	na	na	na	na	na	1.4	0.7 L	2.4	2.2
S&P Global Market Intelligence	3.9	6.8	3.8	na	3.6	3.5	3.4	3.2	3.2	3.5	3.8	na	na	na	5.5 L	na	1.7	2.4	2.4	2.2
Naroff Economics LLC	3.8	6.8	3.9	4.0	3.9	3.9	4.0	4.1	4.0	4.1	4.2	5.0	5.5	4.0	6.0	114.3	3.2	2.4	2.5	2.4
The Lonski Group	3.8	6.9	3.7	3.8	3.8	3.7	3.8	4.0	4.1	4.0	4.1	5.1	5.9	4.0	6.6	120.5 H	1.8	2.1	1.7	2.3
ING	3.7	na	na	na	na	na	na	3.4	3.7	4.0	4.4	na	na	na	na	na	1.8	na	na	na
MacroFin Analytics & Rutgers Bus School	3.6	6.8	3.6	3.7	3.7	3.8	4.2	3.9	4.1	4.2	4.4	5.2	5.4	3.8	6.4	117.8	2.0	2.0	2.0	2.0
NatWest Markets	3.6	6.8	na	3.7	3.9	4.0	4.1	3.5	3.9	4.0	4.2	4.8	5.7	4.5	6.3	na	2.0	1.5	1.5 L	1.7 L
TS Lombard	3.5	6.6	3.5 L	3.5 L	3.4	3.5	3.8	4.0	4.2	4.3	4.4	5.1	6.0	4.3	6.1	100.0 L	-1.0 L	3.0	3.0	3.0 H
Georgia State University	3.3 L	6.5 L	na	na	3.1 L	3.0 L	3.0 L	3.0 L	3.1 L	3.4	3.8	4.5	5.5	na	5.9	na	2.0	2.1	1.6	1.7 L
May Consensus	**4.3**	**7.4**	**4.3**	**4.2**	**4.2**	**4.2**	**4.1**	**3.9**	**3.9**	**4.0**	**4.2**	**5.0**	**5.9**	**4.2**	**6.3**	**115.0**	**1.9**	**2.2**	**2.4**	**2.2**
Top 10 Avg.	4.6	7.8	4.6	4.5	4.6	4.6	4.5	4.3	4.3	4.4	4.6	5.3	6.2	4.5	6.7	117.4	2.5	2.6	2.8	2.4
Bottom 10 Avg.	3.7	6.9	3.9	3.9	3.7	3.7	3.7	3.4	3.5	3.6	3.9	4.6	5.5	3.9	5.9	112.8	1.2	1.8	2.0	1.9
April Consensus	3.9	7.0	3.9	3.9	3.8	3.8	3.7	3.6	3.6	3.8	4.1	4.8	5.8	4.0	6.1	114.0	1.9	2.1	2.2	2.1
Number of Forecasts Changed From A Month Ago:																				
Down	0	0	1	1	1	0	2	1	2	2	2	3	5	5	3	3	7	2	4	4
Same	7	7	5	3	5	4	2	6	9	13	11	8	7	4	7	4	17	17	14	15
Up	31	24	21	17	25	23	24	26	21	20	17	13	10	9	17	11	14	16	18	16
Diffusion Index	91%	89%	87%	88%	89%	93%	89%	88%	80%	76%	75%	71%	61%	61%	76%	72%	59%	70%	69%	67%

Third Quarter 2025

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	1 Federal Funds Rate	2 Prime Bank Rate	3 SOFR Rate	4 Com. Paper 1-Mo.	5 Treas. Bills 3-Mo.	6 Treas. Bills 6-Mo.	7 Treas. Bills 1-Yr.	8 Treas. Notes 2-Yr.	9 Treas. Notes 5-Yr.	10 Treas. Notes 10-Yr.	11 Treas. Bond 30-Yr.	12 Aaa Corp. Bond	13 Baa Corp. Bond	14 State & Local Bonds	15 Home Mtg. Rate	A. Fed's Adv Fgn Econ $ Index	B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index
	Percent Per Annum -- Average For Quarter															Avg. For ---Qtr.---	(Q-Q % Change) (SAAR)			
	Short-Term							Intermediate-Term			Long-Term									
Societe Generale	4.8 H	8.0 H	4.8 H	na	4.7 H	4.5	4.3	3.9	3.4	3.8	4.1	na	na	na	na	na	2.9	2.0	3.8 H	2.1
Bank of America	4.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.5	2.4	2.4	2.0
Barclays	4.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.5	2.3	2.1	2.0
BMO Capital Markets	4.4	7.5	4.3	4.3	4.4	4.4	4.2	4.0	4.0	4.0	4.1	5.1	6.0	4.2	6.4	116.6	2.0	2.0	2.2	2.0
KPMG	4.4	7.5	4.3	3.9	4.1	3.9	3.6	3.2	3.0 L	3.2	3.6	4.0 L	5.4	na	5.3 L	na	1.9	2.5	3.1	2.6 H
Roberts Capital Advisors	4.4	7.6	4.4	4.5 H	4.5	4.4	4.2	4.1	4.1	4.2	4.4	4.8	5.7	4.3	6.4	114.0	2.0	2.3	2.6	2.4
Comerica Bank	4.3	7.5	4.3	na	4.2	4.1	3.7	3.5	3.7	4.0	4.4	5.3	6.1	na	6.3	na	1.6	2.1	2.1	2.1
Daiwa Capital Markets America	4.3	7.4	4.3	na	4.2	na	na	3.9	3.9	4.1	4.3	na	na	na	6.3	116.0	1.9	2.2	2.2	2.1
J.P. Morgan Chase	4.3	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.8	2.2	2.3	2.0
MacroPolicy Perspectives	4.3	7.5	4.3	4.3	4.2	4.1	3.7	2.9 L	3.5	4.1	4.7	5.0	6.0	na	6.0	na	2.2	na	na	na
Oxford Economics	4.3	7.5	4.4	na	4.3	4.2	4.0	3.7	3.5	3.8	3.9	4.0 L	na	na	6.3	115.4	1.9	2.0	2.3	2.1
Regions Financial Corporation	4.3	7.5	4.3	4.4	4.4	4.4	4.4	3.8	3.8	4.3	4.5	5.1	6.0	4.4	6.3	117.4	2.2	2.2	2.3	2.3
Via Nova Investment Mgt.	4.3	7.5	4.3	4.4	4.2	4.3	4.4	4.4	4.6 H	4.6 H	4.7	5.7 H	6.3	4.6	7.2 H	112.0	2.5	2.0	2.0	2.0
Chmura Economics & Analytics	4.2	7.3	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.5	5.0	na	na	6.4	na	2.9	2.5	2.7	2.3
DePrince & Assoc.	4.2	7.3	4.2	4.2	4.2	4.3	4.0	4.3	4.4	4.5	4.6	5.7 H	6.5 H	4.8 H	6.5	115.9	2.2	2.5	2.6	2.4
PNC Financial Services Corp.	4.2	7.3	4.2	na	4.0	4.0	4.0	4.0	4.0	4.1	4.2	na	5.9	4.6	6.1	119.5	2.1	2.2	2.2	1.8
Chan Economics	4.1	7.1	4.0	4.0	4.3	4.4	4.2	3.6	3.2	3.3	3.4 L	4.4	5.4	3.9	6.1	114.6	1.5	2.0	2.2	1.9
Economist Intelligence Unit	4.1	7.3	na	na	na	na	na	na	na	2.9 L	na	na	na	na	na	na	1.8	na	2.4	na
Fannie Mae	4.1	7.2	na	na	4.7 H	4.7 H	4.7 H	4.6 H	4.6 H	4.6 H	4.8 H	na	na	na	6.7	na	2.0	2.2	2.7	2.3
GLC Financial Economics	4.1	7.2	3.7	3.6	3.7	3.6	3.6	3.5	3.6	3.7	4.0	4.7	5.7	3.9	6.0	114.4	3.2 H	1.5 L	2.2	2.2
Goldman Sachs & Co.	4.1	na	na	na	4.0	na	na	3.6	3.7	4.1	4.2	na	na	na	na	na	2.0	1.6	2.5	1.8
Moody's Analytics	4.1	7.3	4.1	4.0	3.9	3.9	4.0	4.0	4.0	4.1	4.5	5.6	6.5 H	4.1	6.1	na	1.6	2.2	2.3	2.1
Nomura Securities, Inc.	4.1	7.3	na	na	na	na	na	3.8	4.0	4.2	na	na	na	na	na	na	2.3	1.7	2.8	2.2
The Northern Trust Company	4.1	7.3	4.1	4.2	3.9	3.8	3.8	3.7	3.9	4.0	4.3	5.3	6.4	4.4	6.3	110.5	1.7	2.3	2.3	2.0
Wells Fargo	4.1	7.3	4.2	4.1	4.1	4.0	3.7	3.6	3.7	3.8	4.1	5.0	6.0	4.4	6.0	na	2.5	2.0	2.2	2.0
Action Economics	4.0	7.2	4.6	4.0	4.0	3.9	3.6	3.7	3.8	3.9	4.0	4.7	5.4	3.9	6.9	117.6	na	na	na	na
Loomis, Sayles & Company	4.0	7.2	4.0	3.9	4.1	4.0	3.8	3.5	3.4	3.8	3.8	4.5	5.3 L	3.6	5.9	116.5	1.9	2.2	2.4	2.0
EY-Parthenon	3.7	na	na	na	3.5	na	na	na	na	3.7	na	na	na	na	na	na	1.9	2.2	2.2	2.1
Santander Capital Markets	3.6	6.8	3.6	3.6	3.3	3.2	3.2	3.6	3.6	3.6	3.7	4.6	5.5	3.0 L	5.8	114.0	1.8	2.4	2.5	2.1
The Lonski Group	3.6	6.7	3.5	3.6	3.6	3.6	3.7	3.7	3.8	3.9	4.1	5.0	5.8	3.9	6.4	120.0 H	2.0	2.0	2.5	2.0
Scotiabank Group	3.5	na	3.3	na	3.4	na	na	3.6	4.0	4.1	4.2	na	na	na	na	na	1.8	3.4 H	2.2	2.0
ING	3.4	na	na	na	na	na	na	3.4	3.9	4.3	4.7	na	na	na	na	na	2.2	na	na	na
S&P Global Market Intelligence	3.4	6.5	3.3	na	3.1	3.2	3.1	3.1	3.1	3.4	3.8	na	na	na	5.4	na	1.7	2.5	3.0	2.5
Georgia State University	3.1	6.2	na	na	2.9	2.9	2.8 L	3.0	3.1	3.5	3.8	4.6	5.6	na	5.7	na	2.8	2.0	2.0	2.1
MacroFin Analytics & Rutgers Bus School	3.1	6.3	3.1	3.2	3.3	3.4	3.8	3.7	4.0	4.1	4.3	5.2	5.4	3.8	6.5	117.7	1.8	2.0	2.0	2.0
Naroff Economics LLC	3.1	6.1	3.2	3.3	3.2	3.3	3.5	3.7	4.0	4.2	4.3	5.2	5.7	4.1	6.1	114.8	2.4	2.3	2.3	2.3
NatWest Markets	3.1	6.3	na	3.2	3.4	3.5	3.6	3.3	3.9	3.9	4.2	4.8	5.7	4.5	6.3	na	2.0	1.5 L	1.5 L	1.5 L
TS Lombard	2.5 L	5.6 L	2.5 L	2.5 L	2.4 L	2.5 L	3.0	3.5	3.7	3.8	3.9	4.6	5.5	3.8	5.6	100.0 L	-1.0 L	2.5	2.5	2.5
May Consensus	**4.0**	**7.1**	**4.0**	**3.9**	**3.9**	**3.9**	**3.8**	**3.7**	**3.8**	**3.9**	**4.2**	**4.9**	**5.8**	**4.1**	**6.2**	**114.8**	**2.0**	**2.2**	**2.4**	**2.1**
Top 10 Avg.	4.4	7.6	4.4	4.3	4.4	4.4	4.3	4.2	4.2	4.3	4.6	5.3	6.2	4.4	6.6	117.3	2.6	2.5	2.8	2.4
Bottom 10 Avg.	3.2	6.5	3.4	3.5	3.2	3.3	3.4	3.3	3.3	3.5	3.8	4.5	5.5	3.8	5.8	112.6	1.4	1.8	2.1	1.9
April Consensus	3.7	6.8	3.7	3.6	3.6	3.6	3.6	3.5	3.6	3.8	4.0	4.8	5.7	4.0	6.0	114.6	2.0	2.2	2.3	2.1
Number of Forecasts Changed From A Month Ago:																				
Down	0	1	1	0	1	0	2	1	1	2	2	1	3	2	3	2	4	4	8	5
Same	12	11	7	7	8	7	10	9	11	12	11	11	9	7	8	5	22	20	11	17
Up	26	19	19	14	22	20	16	23	20	21	17	12	10	9	16	11	11	10	16	12
Diffusion Index	84%	79%	83%	83%	84%	87%	75%	83%	80%	77%	75%	73%	66%	69%	74%	75%	59%	59%	61%	60%

International Interest Rate And Foreign Exchange Rate Forecasts

United States

Blue Chip Forecasters	Fed Fund Target Rate			10 Yr. Gov't Bond Yield %			Fed's AFE $ Index		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	5.38	5.13	4.88	4.68	4.63	--	--	--	--
BMO Capital Markets	5.38	5.13	4.63	4.41	4.20	3.98	117.3	117.5	116.9
ING Financial Markets	5.38	5.13	4.13	4.75	4.00	3.75	116.1	113.8	113.7
Moody's Analytics	5.37	5.17	4.65	4.24	4.20	4.11	--	--	--
Northern Trust	5.13	4.63	4.38	4.45	4.20	4.10	116.0	114.5	112.5
Oxford Economics	5.35	5.04	4.58	4.23	4.15	3.94	117.3	116.8	115.9
S&P Global Market Intelligence	--	--	--	3.89	3.76	3.51	--	--	--
Economist Intelligence Unit	5.38	5.13	4.38	4.16	3.91	3.13	--	--	--
Scotiabank	5.13	4.88	3.88	4.40	4.30	4.10	--	--	--
TS Lombard	5.50	5.50	3.50	4.75	5.25	3.75	130.0	130.0	100.0
Wells Fargo	5.38	5.13	4.63	4.35	4.10	3.90	--	--	--
May Consensus	**5.34**	**5.09**	**4.36**	**4.39**	**4.25**	**3.83**	**119.3**	**118.5**	**111.8**
High	5.50	5.50	4.88	4.75	5.25	4.11	130.0	130.0	116.9
Low	5.13	4.63	3.50	3.89	3.76	3.13	116.0	113.8	100.0
Last Months Avg.	5.25	4.89	4.15	4.04	3.94	3.91	113.9	111.8	109.5

Japan

Blue Chip Forecasters	Policy-Rate Balance Rate			10 Yr. Gov't Bond Yield %			Yen per US$		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	0.00	0.25	0.25	0.82	0.87	--	149.3	147.0	--
BMO Capital Markets	0.11	0.13	0.15	0.85	0.94	0.97	153.0	151.0	148.0
ING Financial Markets	0.10	0.25	0.75	0.90	1.00	1.50	150.0	143.0	140.0
Moody's Analytics	0.05	0.05	0.05	0.79	0.81	0.84	147.3	143.8	133.2
Nomura Securities	--	--	--	--	--	--	150.0	145.0	--
Northern Trust	0.00	0.10	0.25	0.90	1.00	1.10	150.0	145.0	142.0
Oxford Economics	0.00	0.00	0.25	0.84	0.92	1.03	155.0	152.4	147.4
S&P Global Market Intelligence	--	--	--	--	--	--	144.9	138.8	131.3
Economist Intelligence Unit	0.00	0.00	0.01	1.10	1.10	1.30	132.4	128.0	116.2
Scotiabank	--	--	--	--	--	--	150.0	150.0	145.0
TS Lombard	0.00	0.10	0.10	1.00	1.10	0.75	160.0	165.0	126.9
Wells Fargo	0.10	0.10	0.20	0.85	0.95	0.95	--	--	--
May Consensus	**0.04**	**0.11**	**0.22**	**0.89**	**0.97**	**1.06**	**149.3**	**146.3**	**136.7**
High	0.11	0.25	0.75	1.10	1.10	1.50	160.0	165.0	148.0
Low	0.00	0.00	0.01	0.79	0.81	0.75	132.4	128.0	116.2
Last Months Avg.	0.02	0.07	0.09	0.77	0.87	0.97	146.5	142.0	135.6

United Kingdom

Blue Chip Forecasters	Official Bank Rate			10 Yr. Gilt Yields %			US$ per Pound Sterling		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	5.00	4.50	4.00	3.90	3.90	--	1.26	1.26	--
BMO Capital Markets	5.00	4.75	4.50	3.89	3.81	3.68	1.26	1.27	1.29
ING Financial Markets	5.25	4.75	3.75	4.10	3.60	3.50	1.26	1.26	1.25
Moody's Analytics	5.25	5.06	4.07	3.84	3.78	3.81	1.23	1.23	1.25
Nomura Securities	--	--	--	--	--	--	1.25	1.26	--
Northern Trust	5.25	5.00	4.00	4.25	4.00	3.90	1.26	1.27	1.28
Oxford Economics	4.84	4.60	4.08	4.03	3.92	3.75	1.25	1.26	1.26
S&P Global Market Intelligence	--	--	--	--	--	--	1.27	1.27	1.28
Economist Intelligence Unit	4.75	4.50	4.50	3.80	3.80	3.80	1.25	1.26	1.27
Scotiabank	4.50	4.00	3.75	--	--	--	1.25	1.27	1.29
TS Lombard	5.25	5.00	4.75	4.20	4.70	3.20	1.27	1.20	1.15
Wells Fargo	5.25	4.75	4.00	4.10	3.90	3.70	--	--	--
May Consensus	**5.03**	**4.69**	**4.14**	**4.01**	**3.93**	**3.67**	**1.26**	**1.26**	**1.26**
High	5.25	5.06	4.75	4.25	4.70	3.90	1.27	1.27	1.29
Low	4.50	4.00	3.75	3.80	3.60	3.20	1.23	1.20	1.15
Last Months Avg.	5.12	4.78	4.09	3.94	3.79	3.81	1.27	1.27	1.28

Switzerland

Blue Chip Forecasters	SNB Policy Rate			10 Yr. Gov't Bond Yield %			CHF per US$		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	1.25	1.00	0.50	--	--	--	0.92	0.93	--
BMO Capital Markets	1.50	1.50	1.50	--	--	--	0.89	0.88	0.86
ING Financial Markets	1.25	1.00	1.00	0.70	0.60	0.75	0.91	0.90	0.91
Moody's Analytics	1.25	1.00	1.00	0.81	0.81	0.88	0.87	0.86	0.84
Nomura Securities	--	--	--	--	--	--	0.94	0.93	--
Northern Trust	1.25	1.00	1.00	0.80	0.80	0.80	0.90	0.89	0.88
Oxford Economics	1.13	1.00	0.75	0.83	0.95	1.08	0.91	0.90	0.90
S&P Global Market Intelligence	--	--	--	--	--	--	0.91	0.90	0.90
Economist Intelligence Unit	1.00	1.00	0.75	0.70	0.60	0.60	0.92	1.03	0.89
Scotiabank	--	--	--	--	--	--	0.92	0.90	0.91
TS Lombard	1.40	1.40	1.00	0.75	1.25	0.50	0.90	0.90	0.90
Wells Fargo	1.25	1.00	1.00	--	--	--	--	--	--
May Consensus	**1.25**	**1.10**	**0.94**	**0.77**	**0.84**	**0.77**	**0.91**	**0.91**	**0.89**
High	1.50	1.50	1.50	0.83	1.25	1.08	0.94	1.03	0.91
Low	1.00	1.00	0.50	0.70	0.60	0.50	0.87	0.86	0.84
Last Months Avg.	1.50	1.26	0.90	0.80	0.80	0.99	0.88	0.88	0.88

Canada

Blue Chip Forecasters	O/N MMkt Financing Rate			10 Yr. Gov't Bond Yield %			C$ per US$		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	4.75	4.50	4.00	--	--	--	1.38	1.39	--
BMO Capital Markets	4.75	4.50	4.00	3.51	3.33	3.20	1.36	1.34	1.32
ING Financial Markets	4.75	4.50	3.50	3.90	3.50	3.50	1.34	1.32	1.32
Moody's Analytics	4.93	4.68	4.19	3.84	3.91	3.94	1.33	1.31	1.29
Nomura Securities	--	--	--	--	--	--	1.38	1.37	--
Northern Trust	4.75	4.25	3.75	3.75	3.50	3.40	1.35	1.34	1.32
Oxford Economics	4.63	4.38	3.88	3.58	3.56	3.53	1.35	1.35	1.35
S&P Global Market Intelligence	--	--	--	--	--	--	1.31	1.32	1.36
Economist Intelligence Unit	4.75	4.25	3.25	3.30	3.00	2.30	1.31	1.31	1.30
Scotiabank	4.75	4.25	3.50	3.60	3.60	3.60	1.36	1.33	1.32
TS Lombard	5.00	4.75	3.00	3.80	4.30	2.80	1.35	1.35	1.35
Wells Fargo	4.50	4.25	3.75	3.55	3.45	3.40	--	--	--
May Consensus	**4.76**	**4.43**	**3.68**	**3.65**	**3.57**	**3.30**	**1.35**	**1.34**	**1.33**
High	5.00	4.75	4.19	3.90	4.30	3.94	1.38	1.39	1.36
Low	4.50	4.25	3.00	3.30	3.00	2.30	1.31	1.31	1.29
Last Months Avg.	4.86	4.56	3.76	3.43	3.36	3.40	1.34	1.33	1.31

International Interest Rate And Foreign Exchange Rate Forecasts

Australia

Blue Chip Forecasters	Official Cash Rate			10 Yr. Gov't Bond Yield %			US$ per A$		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	4.35	3.85	3.35	--	--	--	0.64	0.63	--
BMO Capital Markets	4.10	3.85	3.60	--	--	--	0.65	0.66	0.66
ING Financial Markets	4.35	4.10	3.60	3.75	3.60	3.75	0.66	0.67	0.66
Moody's Analytics	4.35	4.10	3.60	4.15	4.09	4.00	0.66	0.68	0.71
Nomura Securities	--	--	--	--	--	--	0.66	0.66	--
Northern Trust	4.35	4.35	3.35	4.40	4.30	4.00	0.65	0.66	0.68
Oxford Economics	4.35	4.23	3.73	4.05	4.04	3.83	0.66	0.66	0.67
S&P Global Market Intelligence	--	--	--	--	--	--	0.66	0.68	0.69
Economist Intelligence Unit	4.10	3.85	3.10	3.50	3.40	3.10	0.67	0.67	0.68
Scotiabank	--	--	--	--	--	--	0.68	0.68	0.70
TS Lombard	4.35	4.10	2.60	4.55	5.05	3.55	0.65	0.65	0.65
Wells Fargo	4.35	4.25	3.85	--	--	--	--	--	--
May Consensus	**4.29**	**4.08**	**3.42**	**4.07**	**4.08**	**3.71**	**0.66**	**0.66**	**0.68**
High	4.35	4.35	3.85	4.55	5.05	4.00	0.68	0.68	0.71
Low	4.10	3.85	2.60	3.50	3.40	3.10	0.64	0.63	0.65
Last Months Avg.	4.32	4.10	3.64	4.00	3.88	3.87	0.66	0.67	0.68

Euro area

Blue Chip Forecasters	Main Refinancing Rate			US$ per Euro		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	4.00	3.40	2.90	1.06	1.05	--
BMO Capital Markets	4.25	4.00	3.75	1.07	1.09	1.11
ING Financial Markets	4.25	4.00	3.50	1.08	1.10	1.10
Moody's Analytics	4.45	3.99	2.86	1.07	1.08	1.11
Nomura Securities	--	--	--	1.06	1.07	--
Northern Trust	4.25	3.65	2.65	1.08	1.09	1.11
Oxford Economics	4.13	3.39	2.36	1.07	1.07	1.08
S&P Global Market Intelligence	--	--	--	1.09	1.10	1.12
Economist Intelligence Unit	3.75	3.50	3.00	1.11	1.12	1.14
Scotiabank	3.40	3.15	2.90	1.07	1.09	1.11
TS Lombard	3.75	3.75	1.75	1.10	1.05	1.00
Wells Fargo	3.50	3.25	2.75	--	--	--
May Consensus	**3.97**	**3.61**	**2.84**	**1.08**	**1.08**	**1.10**
High	4.45	4.00	3.75	1.11	1.12	1.14
Low	3.40	3.15	1.75	1.06	1.05	1.00
Last Months Avg.	4.19	3.69	2.85	1.09	1.09	1.11

Blue Chip Forecasters	10 Yr. Gov't Bond Yields %											
	Germany			France			Italy			Spain		
	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	2.08	1.88	--	--	--	--	--	--	--	--	--	--
BMO Capital Markets	2.33	2.31	2.25	--	--	--	--	--	--	--	--	--
ING Financial Markets	2.30	2.10	2.25	2.85	2.65	2.80	3.80	3.70	3.90	3.20	3.05	3.20
Moody's Analytics	2.39	2.38	2.37	2.93	2.90	2.80	3.85	3.83	3.81	3.24	3.26	3.29
Northern Trust	2.50	2.40	2.20	3.00	2.90	2.70	3.90	3.80	3.60	3.30	3.20	3.00
Oxford Economics	2.31	2.24	2.16	2.80	2.71	2.58	3.72	3.74	3.86	3.18	3.16	3.19
Economist Intelligence Unit	2.50	2.50	2.40	3.10	3.00	2.90	3.80	3.80	3.70	3.20	3.20	3.10
TS Lombard	2.60	3.10	1.60	2.95	3.45	1.95	3.90	4.40	2.90	3.35	3.85	2.35
Wells Fargo	2.35	2.25	2.25	--	--	--	--	--	--	--	--	--
May Consensus	**2.37**	**2.35**	**2.19**	**2.94**	**2.94**	**2.62**	**3.83**	**3.88**	**3.63**	**3.25**	**3.29**	**3.02**
High	2.60	3.10	2.40	3.10	3.45	2.90	3.90	4.40	3.90	3.35	3.85	3.29
Low	2.08	1.88	1.60	2.80	2.65	1.95	3.72	3.70	2.90	3.18	3.05	2.35
Last Months Avg.	2.29	2.22	2.18	2.80	2.71	2.68	3.85	3.80	3.84	3.17	3.11	3.14

	Consensus Forecasts 10-year Bond Yields vs U.S. Yield			
	Current	In 3 Mo.	In 6 Mo.	In 12 Mo.
Japan	-3.77	-3.50	-3.28	-2.77
United Kingdom	-0.30	-0.38	-0.31	-0.16
Switzerland	-3.94	-3.63	-3.41	-3.06
Canada	-0.84	-0.74	-0.67	-0.53
Australia	-0.27	-0.33	-0.17	-0.12
Germany	-2.09	-2.02	-1.89	-1.64
France	-1.60	-1.45	-1.31	-1.21
Italy	-0.78	-0.56	-0.37	-0.20
Spain	-1.30	-1.15	-0.96	-0.81

	Consensus Forecasts Policy Rates vs U.S. Target Rate			
	Current	In 3 Mo.	In 6 Mo.	In 12 Mo.
Japan	-5.33	-5.30	-5.20	-4.14
United Kingdom	-0.13	-0.30	-0.40	-0.22
Switzerland	-3.88	-4.08	-3.99	-3.42
Canada	-0.38	-0.58	-0.66	-0.68
Australia	-1.03	-1.04	-1.01	-0.94
Euro area	-0.88	-1.37	-1.48	-1.52

Viewpoints:

A Sampling of Views on the Economy, Financial Markets and Government Policy Excerpted from Recent Reports Issued by our Blue Chip Panel Members and Others

Q1 2024 GDP: Headline Miss Masks More Constructive Details

The initial estimate from the BEA puts Q1 real GDP growth at an annual rate of 1.6 percent, well short of expectations and ending a run of six straight quarters of growth above 2.0 percent. Consumer spending, business investment in equipment, machinery, and intellectual property products, and residential fixed investment were the primary supports for growth. At the same time, however, a wider trade deficit and a slower pace of inventory accumulation in the nonfarm business sector acted as meaningful drags on Q1 growth, with a drop in defense spending acting as a minor drag. As always, we'll note that the initial estimate of GDP in any given quarter is based on highly incomplete source data and, as such, prone to sizable revisions. We'll also note that inventories and trade tend to be the most volatile components of GDP and often team up to act as swing factors, which to some extent is the case in the Q1 data. To that point, real private domestic demand, the sum of household and business spending, rose at an annual rate of 3.1 percent in Q1, down only slightly from the 3.3 percent pace set in Q4 2023. In that sense, we find the miss on Q1 growth to be much less concerning than had the shortfall been accounted for by a drop in fixed investment, though we'll admit to feeling more than a bit unsettled as we saw the numbers come across our screen.

Real consumer spending grew at an annual rate of 2.5 percent in Q1, adding 1.68 percentage points to top-line real GDP growth. Adjusted for price changes, consumer spending on goods fell at a 0.4 percent rate, with a steep decline in outlays on motor vehicles accounting for most of this drag, while a sharp decline in gasoline expenditures acted as a meaningful drag on real spending on nondurable consumer goods. Services spending, which accounts for roughly two-thirds of all consumer spending, grew at an annual rate of 4.0 percent in Q1, the fastest growth since Q3 2021.

Single family residential investment logged a third straight quarter of double-digit annualized growth, higher mortgage rates notwithstanding. This more than offset a second straight decline in multi-family outlays. Real business fixed investment grew at an annual rate of 2.9 percent, which added 0.39 percentage points to top-line real GDP growth. One notable weight on business fixed investment was business spending on structures, reported to have declined at a 0.1 percent rate after accounting for price changes, a rather rude end to what had been a run of four straight quarters of double-digit growth. We don't, however, make too much of this modest decline, seeing it as a pause rather than a reversal of course. Recall that business spending on structures has largely been driven by construction of new manufacturing facilities, particularly focused on production of semiconductor chips, electric vehicles, and electric vehicle batteries. Though perhaps having peaked, that wave of investment has by no means dried up, and we expect this component to resume the role of a driver of overall business investment in coming quarters. Real outlays on equipment and machinery grew at a 2.1 percent rate in Q1 after having contracted over the prior two quarters. While it is too soon to know whether Q1 marks a turning point or merely a continuation of the up-and down nature of spending in this category, we've noted that at some point we do expect to see a run of sustained growth in spending on equipment and machinery with an eye toward sustaining faster labor productivity growth. To that point, real outlays on intellectual property products grew at an annual rate of 5.4 percent, the fastest growth since Q4 2022.

This raises a related point, though it is a point lost on those either unable or unwilling to go beyond the simple GDP math that shows imports to be a drag on GDP, which is that imports of capital goods excluding motor vehicles accounted for much of the growth in total imports. Such imports go toward current and/or future production here in the states, and come on top of the growth in business investment in equipment and machinery booked in Q1. We'd defy anyone to concoct a plausible case for that being a negative for the U.S. economy, the implications for the GDP math notwithstanding. A slower rate of inventory accumulation – recall that for GDP growth, it is the change in the change in inventories that matters – knocked three-tenths of a point from top-line real GDP growth. That this marks a second straight quarter of deceleration is a sign that businesses have mostly right-sized inventories after scrambling to make up for pandemic-related disruptions in production and inventories.

To be sure, you'd rather hit a forecast than miss a forecast. That said, in the case of Q1 GDP the miss is made more palatable by the details of the data on business investment and capital goods imports.

Richard Moody (Regions Financial Corporation)

March Existing Home Sales: More A Calendar Story Than A Mortgage Rate Story

Total existing home sales fell to an annual rate of 4.19 million units in March, not too distant from either the consensus forecast (4.20 million) or our forecast (4.23 million). Either way, the headline sales number masks what was a truly weak March, with the not seasonally adjusted data showing the smallest March increase on record in the life of the current series. Sure, one has to actually go into the details of the data to see this, which means it will go mostly unseen, and it's also the case that sufficiently generous seasonal adjustment can mask the most unsightly of details. For us, though, the real question is what to make of a notably weak March for existing home sales. While elevated mortgage rates are the popular explanation for any weakness, real or otherwise, in any housing market data these days, we think it really comes down to the calendar, with fewer business days this March than last.

One reason we raise this point is that the weak unadjusted sales number for March, which fell far short of our forecast, calls into question our premise that a bottom was forming in existing home sales. We're not ready to abandon that call just yet, particularly as inventories of existing homes for sale continued to move higher in March, rising to 1.11 million units, which matches our forecast. Between the drop in sales and the increase in inventories, the months supply metric rose to 3.2 months in March, and while that may overstate the case, inventories are at least trending in the right direction. We say "at least" because that still leaves the market far, far away from any semblance of being balanced, particularly as there remains a still-significant degree of pent-up demand for home purchases. Moreover, if we

are correct in anticipating only grudging progress on the inventory front in the market for existing homes, builders will be the main beneficiaries of that pent-up demand, as more of the demand for home purchases will be funneled to the market for new homes.

In any given year, March is the month in which we see the biggest (percentage) increase in not seasonally adjusted sales, and that has been the case in the post-pandemic years during which seasonal patterns in the economic data have tended to be badly distorted. That makes this year's March data all the more noteworthy. The not seasonally adjusted data show sales of 324,000 units in March, falling well short of our forecast and yielding an increase of "just" 19.6 percent from February. As seen in our middle chart, this is the smallest March increase in unadjusted sales in the life of the current data series. Moreover, sales were down 9.8 percent year-on-year after the prior two months had seen year-on-year increases in sales, however modest. As noted above, however, we think this is more a calendar story than anything else. By the count of the calendar, there were two fewer business days this March than last, and if we adjust for that disparity sales were down just 1.2 percent year-on-year. While officially counting as a business day, Good Friday falling into March this year also likely weighed on sales (recall existing home sales are booked at closing), and if we take this out of the count of business days, sales were actually up 3.8 percent year-on-year. Either way, that there were fewer sales days this year than last was clearly accounted for in the seasonal factor used by NAR to arrive at the headline sales figure. We did not put enough emphasis on the business day count when producing our forecast of unadjusted sales, which in turn translated into our miss on the headline sales number. We will, however, note that pending home sales, a gauge of signed sales contracts, were stronger than typical in February on a not seasonally adjusted basis. So, if we're correct in attributing March's notably weak unadjusted sales to calendar effects, that ground will be made up for in April closings.

We think the inventory data also support our contention. Inventories were up 4.7 percent in March, larger than the typical March increase (the NAR inventory data are not seasonally adjusted) and leaving inventories up 14.4 percent year-on-year. Our bottom chart illustrates our point that inventories are at least trending in the right direction. As our long-time readers know, we used this chart for years - literally - to illustrate the downward drift in inventories, which we argued was acting as a drag on existing home sales. Sorting through the clear seasonal patterns, inventories are at least rising, however, grudgingly. We expect both to remain the case - further increases in inventories, but at a painfully slow pace - which will, as more buyers come to terms with mortgage rates, continue to favor new home sales.

Richard Moody (Regions Financial Corporation)

Inflation is still too hot to cut rates

The personal consumption expenditure (PCE) deflator rose 0.3% in March, the same as February. The PCE jumped 2.7% from a year ago in March, after hitting 2.5% in February. The three-month annualized pace jumped 4.4% in the end of the first quarter, after cooling to 0.6% in the end of the fourth quarter. That is the wrong direction for the Federal Reserve, which had hoped that inflation would be decelerating by now instead of accelerating. The core PCE, which strips out food and energy costs, rose 0.3% in March, the same as February. That translates to a 2.8% increase from a year ago, the same as February. The three-month annualized change came in at 3.5% in March, up from 1.7% in December. More importantly, core goods inflation, which had been the primary driver of disinflation in 2023 is now moving up again; core goods inflation on a three-month moving average basis rose for the first time since June 2023.

The super core services PCE, which strips out shelter costs and gets to the most wage-sensitive aspect of inflation, rose 0.4% in March, after cooling to a 0.2% pace in February. That translates to a 3.5% increase from a year ago, up from 3.4% in February. The three-month annualized pace jumped 5.5% in March, several multiples of the 2.2% pace in December. The super core has held in the mid-3% range for the last five months and appears to be forming a floor under overall inflation. Gains in the super core were broader based than they have been in recent months. That is a sign that inflation is getting stuck above the levels the Fed considers consistent with price stability.

Personal consumption expenditures held up much better than disposable incomes after adjusting for inflation while the saving rate plummeted. The saving rate fell to 3.2% in March, its lowest pace since the fall of 2022, when consumers tapped savings to offset the burn of a more searing inflation. Much of the excess savings generated by the pandemic has been drained, although consumers are still carrying a lot more in their deposit accounts than pre-pandemic. What they have is earning interest. Separately, debt loads have moved up but remain low for most households due to fixed rate mortgages. Delinquencies have moved up for subprime borrowers and younger households, but not resulted in the same kind of defaults we saw in the past. That is mostly because unemployment remains extremely low; it's easier to juggle debt payments, even if they are late, when you still have a job.

The forbearance that was instituted to keep households from defaulting at the onset of the pandemic have been rolled back. However, the full boost to delinquencies triggered by a resumption of student debt is a bit hazy as the impact delinquencies have on credit reports will not show up until the fourth quarter of this year. Student debt has historically been the driver of delinquencies and default, although the administration has forgiven some debt and made it easier for households to service that debt than in the past.

Spending on services remained particularly elevated in the first quarter, despite a slowdown in March. The first quarter marked the second quarter in a row when services dominated spending gains and, not surprisingly, created the highest floor under service sector inflation.

The statistical agencies are struggling to get the seasonal adjustment of the data correct in the wake of the stop/go changes in activity emerging from a pandemic. That would suggest that actual inflation did not improve as much as reported in the fourth quarter, while the deterioration in the first quarter was not as bad as reported. The Fed is well aware of that "residual seasonality;" it is the primary reason officials were cautious in popping Champagne corks and prematurely cutting rates when inflation cooled in the fourth quarter. If we split the difference, inflation is still too hot to cut rates.

By Diane Swonk (KPMG)

Special Questions:

1. a. Do you expect the Fed to cut rates in 2024? Yes 97% No 3%

   b. If yes, at what FOMC meeting will the first FFR cut occur?
   May 2024 0% Jun 2024 3% Jul 2024 19% Sep 2024 63% Nov 2024 9% Dec 2024 3% Later 3%

   c. If yes, by how much will the FFR target decline in 2024? 56 bps

2. What is your estimate of the long-term neutral fed funds rate? 2.84%

3. a. The Fed has been reducing its security holdings since the middle of 2022, known as quantitative tightening. Will it slow this reduction once it begins to lower the fed funds rate target? Yes 46% No 54%

   b. Or might it slow the pace of reduction even before it begins to lower the fed funds rate target? Yes 75% No 25%

4. Changes in monetary policy affect the economy with a lag, possibly long. Is there further meaningful restraint from earlier tightening that the US economy has yet to feel? Yes 70% No 30%

5. What is the probability that the rate of US inflation will remain sufficiently elevated to keep the Fed on hold for the remainder of 2024? 36%

6. Is the US economy headed for a "soft landing," that is, a return of inflation to around the Fed's 2% target without the economy experiencing a recession? Yes 90% No 10%

7. What probability do you attach to a recession beginning over the next 12 months in the:

	US	euro area	UK
Consensus	**30%**	**43%**	**44%**
Top 10	41%	51%	55%
Bot 10	20%	34%	34%

8. a. When will the ECB begin cutting its policy rates?

Q2 2024	Q3 2024	Q4 2024	Later
71%	25%	4%	0%

   b. When will the BoE begin cutting its Bank rate?

Q2 2024	Q3 2024	Q4 2024	Later
38%	50%	13%	0%

   c. When will the Bank of Japan next increase its uncollateralized overnight call rate?

Q2 2024	Q3 2024	Q4 2024	In 2025 or later	Next move more likely to be a cut
17%	43%	26%	13%	0%

9. Do you think the recent increase in geopolitical instability in the Middle East poses meaningful downside risks to the global economic outlook? Yes 61% No 39%

Databank:

2024 Historical Data

Monthly Indicator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Retail and Food Service Sales (a)	-1.1	1.0	0.7	....	....	....	....	....	....	....	....	....
Auto & Light Truck Sales (b)	14.91	15.73	15.58	....	....	....	....	....	....	....	....	....
Personal Income (a, current $)	1.0	0.3	0.5	....	....	....	....	....	....	....	....	....
Personal Consumption (a, current $)	0.1	0.8	0.8	....	....	....	....	....	....	....	....	....
Consumer Credit (e)	4.2	3.4	....	....	....	....	....	....	....	....	....	....
Consumer Sentiment (U. of Mich.)	79.0	76.9	79.4	77.2	....	....	....	....	....	....	....	....
Household Employment (c)	-31	-184	498	....	....	....	....	....	....	....	....	....
Nonfarm Payroll Employment (c)	256	270	303	....	....	....	....	....	....	....	....	....
Unemployment Rate (%)	3.7	3.9	3.8	....	....	....	....	....	....	....	....	....
Average Hourly Earnings (All, cur. $)	34.51	34.57	34.69	....	....	....	....	....	....	....	....	....
Average Workweek (All, hrs.)	34.2	34.3	34.4	....	....	....	....	....	....	....	....	....
Industrial Production (d)	-0.7	-0.3	0.0	....	....	....	....	....	....	....	....	....
Capacity Utilization (%)	77.9	78.2	78.4	....	....	....	....	....	....	....	....	....
ISM Manufacturing Index (g)	49.1	47.8	50.3	....	....	....	....	....	....	....	....	....
ISM Nonmanufacturing Index (g)	53.4	52.6	51.4	....	....	....	....	....	....	....	....	....
Housing Starts (b)	1.375	1.549	1.321	....	....	....	....	....	....	....	....	....
Housing Permits (b)	1.489	1.524	1.467	....	....	....	....	....	....	....	....	....
New Home Sales (1-family, c)	671	637	693	....	....	....	....	....	....	....	....	....
Construction Expenditures (a)	-0.2	-0.3	....	....	....	....	....	....	....	....	....	....
Consumer Price Index (nsa, d)	3.1	3.2	3.5	....	....	....	....	....	....	....	....	....
CPI ex. Food and Energy (nsa, d)	3.9	3.8	3.8	....	....	....	....	....	....	....	....	....
PCE Chain Price Index (d)	2.5	2.5	2.7	....	....	....	....	....	....	....	....	....
Core PCE Chain Price Index (d)	2.9	2.8	2.8	....	....	....	....	....	....	....	....	....
Producer Price Index (nsa, d)	1.0	1.6	2.1	....	....	....	....	....	....	....	....	....
Durable Goods Orders (a)	-6.9	0.7	2.6	....	....	....	....	....	....	....	....	....
Leading Economic Indicators (a)	-0.5	0.2	-0.3	....	....	....	....	....	....	....	....	....
Balance of Trade & Services (f)	-67.6	-68.9	....	....	....	....	....	....	....	....	....	....
Federal Funds Rate (%)	5.33	5.33	5.33	....	....	....	....	....	....	....	....	....
3-Mo. Treasury Bill Rate (%)	5.45	5.44	5.47	....	....	....	....	....	....	....	....	....
10-Year Treasury Note Yield (%)	4.06	4.21	4.21	....	....	....	....	....	....	....	....	....

2023 Historical Data

Monthly Indicator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Retail and Food Service Sales (a)	4.1	-1.1	-1.1	0.6	0.5	0.1	0.5	0.7	0.8	-0.2	0.1	0.4
Auto & Light Truck Sales (b)	15.11	14.88	14.93	15.68	15.52	16.06	15.94	15.30	15.77	15.47	15.54	16.12
Personal Income (a, current $)	1.0	0.5	0.5	0.2	0.3	0.2	0.3	0.5	0.4	0.2	0.4	0.3
Personal Consumption (a, current $)	1.6	0.4	-0.1	0.4	0.2	0.4	0.6	0.3	0.8	0.2	0.4	0.6
Consumer Credit (e)	5.1	2.8	4.2	3.2	1.3	5.8	2.9	-4.0	2.0	2.2	4.3	0.8
Consumer Sentiment (U. of Mich.)	64.9	66.9	62.0	63.7	59.0	64.2	71.5	69.4	67.8	63.8	61.3	69.7
Household Employment (c)	852	149	523	138	-255	297	205	291	50	-270	586	-683
Nonfarm Payroll Employment (c)	482	287	146	278	303	240	184	210	246	165	182	290
Unemployment Rate (%)	3.4	3.6	3.5	3.4	3.7	3.6	3.5	3.8	3.8	3.8	3.7	3.7
Average Hourly Earnings (All, cur. $)	33.07	33.15	33.31	33.44	33.54	33.70	33.84	33.91	34.01	34.10	34.23	34.34
Average Workweek (All, hrs.)	34.6	34.5	34.4	34.3	34.4	34.4	34.3	34.4	34.4	34.3	34.4	34.4
Industrial Production (d)	1.5	0.9	0.2	0.3	0.1	-0.4	0.1	-0.1	-0.2	-0.8	-0.1	1.1
Capacity Utilization (%)	79.6	79.5	79.5	79.8	79.5	78.9	79.5	79.4	79.4	78.8	79.0	78.7
ISM Manufacturing Index (g)	47.4	47.7	46.5	47.0	46.6	46.4	46.5	47.6	48.6	46.9	46.6	47.1
ISM Nonmanufacturing Index (g)	54.7	55.0	51.2	52.3	51.0	53.6	52.8	54.1	53.4	51.9	52.5	50.5
Housing Starts (b)	1.340	1.436	1.380	1.348	1.583	1.418	1.451	1.305	1.356	1.376	1.512	1.566
Housing Permits (b)	1.354	1.482	1.437	1.417	1.496	1.441	1.443	1.541	1.471	1.498	1.467	1.493
New Home Sales (1-family, c)	649	625	640	679	710	683	728	654	698	670	609	654
Construction Expenditures (a)	2.2	0.4	0.6	0.3	2.0	0.5	0.7	2.1	0.4	2.1	1.2	0.9
Consumer Price Index (nsa, d)	6.4	6.0	5.0	4.9	4.0	3.0	3.2	3.7	3.7	3.2	3.1	3.4
CPI ex. Food and Energy (nsa, d)	5.6	5.5	5.6	5.5	5.3	4.8	4.7	4.3	4.1	4.0	4.0	3.9
PCE Chain Price Index (d)	5.5	5.2	4.4	4.4	4.0	3.2	3.3	3.3	3.4	2.9	2.7	2.6
Core PCE Chain Price Index (d)	4.9	4.8	4.8	4.8	4.7	4.3	4.2	3.7	3.6	3.4	3.2	2.9
Producer Price Index (nsa, d)	5.7	4.7	2.7	2.3	1.1	0.3	1.1	1.9	1.8	1.1	0.8	1.1
Durable Goods Orders (a)	-1.3	-2.7	3.3	1.2	2.0	4.3	-5.6	-0.1	4.0	-5.1	5.4	-0.3
Leading Economic Indicators (a)	-0.5	-0.6	-1.2	-0.7	-0.7	-0.7	-0.3	-0.4	-0.8	-0.9	-0.6	-0.2
Balance of Trade & Services (f)	-70.3	-70.1	-59.6	-72.2	-66.2	-63.5	-65.0	-58.9	-61.9	-65.2	-62.7	-64.2
Federal Funds Rate (%)	4.33	4.57	4.65	4.83	5.06	5.08	5.12	5.33	5.33	5.33	5.33	5.33
3-Mo. Treasury Bill Rate (%)	4.69	4.79	4.86	5.07	5.31	5.42	5.49	5.56	5.56	5.60	5.52	5.44
10-Year Treasury Note Yield (%)	3.53	3.75	3.66	3.46	3.57	3.75	3.90	4.17	4.38	4.80	4.50	4.02

(a) month-over-month % change; (b) millions, saar; (c) month-over-month change, thousands; (d) year-over-year % change; (e) annualized % change; (f) $ billions; (g) level. Most series are subject to frequent government revisions. Use with care.

Calendar of Upcoming Economic Data Releases

Monday	Tuesday	Wednesday	Thursday	Friday
		May 1 ADP Employment Report (Apr) JOLTS (Mar) Construction (Mar) ISM Manufacturing (Apr) S&P Global Mfg PMI (Apr) EIA Crude Oil Stocks Mortgage Applications FOMC Meeting	**2** Intl Trade/Supplement (Mar) Productivity & Costs (Q1) Manufacturers' Shipments, Inventories & Orders (Mar) Challenger Employment Report (Apr) BEA Auto & Truck Sales (Mar) Weekly Jobless Claims	**3** Employment Situation (Apr) ISM Services PMI (Apr) S&P Global Services PMI (Apr) Baker Hughes International Rig Count (Apr)
6 Public Debt (Apr) Interest on Public Debt (Apr) Senior Loan Officer Survey(Q2)	**7** Consumer Credit (Mar) Treasury Auction Allotments (Apr) Kansas City Fed Labor Market Conditions Indicators (Apr)	**8** Transportation Services Index (Mar) Wholesale Trade (Mar) First Time Housing Affordability (Q1) EIA Crude Oil Stocks Mortgage Applications	**9** Kansas City Financial Stress Index (Apr) CEO Confidence Survey (Q2) Weekly Jobless Claims	**10** Consumer Sentiment (May, Preliminary) Monthly Treasury Statement (Apr) Survey of Professional Forecasters (Q2) Housing Affordability (Mar)
13 Dallas Fed Banking Conditions Survey (Apr)	**14** Producer Prices (Apr) NFIB (Apr) MSIO Revisions OPEC Crude Oil Spot Prices (Apr)	**15** CPI & Real Earnings (Apr) Advance Retail Sales (Apr) MTIS (Mar) Cleveland Fed Median CPI (Apr) Empire State Mfg Survey (May) Home Builders (May) TIC Data (Mar) EIA Crude Oil Stocks Mortgage Applications	**16** New Residential Construction (Apr & Revisions) Import & Export Prices (Apr) IP & Capacity Utilization (Apr) Business Leaders Survey (May) Philadelphia Fed Mfg Business Outlook Survey (May) Weekly Jobless Claims	**17** Retail E-Commerce Sales (Q1 & Revisions) Composite Indexes (Apr)
20 NABE Outlook (Q2)	**21** Philadelphia Fed Nonmanufacturing Business Outlook Survey (May)	**22** Existing Home Sales (Apr) CEW (Q4) Adv Quarterly Services (Q1) Treas Auction Allotments (May) FRB Philadelphia Coincident Economic Activity Index (Apr) EIA Crude Oil Stocks Mortgage Applications	**23** New Residential Sales(Apr,Rev) Final Building Permits (Apr) Chicago Fed Natl Activity (Apr) Kansas City Fed Mfg (May) Steel Imports (Apr, Preliminary) NAHB-Wells Fargo Housing Opportunity Index (Q1) S&P Global Flash PMIs (May) Weekly Jobless Claims	**24** Advance Durable Goods (Apr) Consumer Sentiment (May, Final)
27 **MEMORIAL DAY** **ALL MARKETS CLOSED**	**28** Case-Shiller HPI (Mar) FHFA HPI (Mar & Q1) H.6 Money Stock (Apr) Consumer Confidence (May) Texas Manufacturing Outlook (May)	**29** Richmond Fed Mfg & Service Sector Surveys (May) Texas Service Sector Outlook Survey (May) EIA Crude Oil Stocks Mortgage Applications	**30** GDP (Q1, 2nd Estimate) Adv Trade & Inventories (Apr) Pending Home Sales (Apr) Weekly Jobless Claims	**31** Personal Income (Apr) Agricultural Prices (Apr) Strike Report (May) Dallas Fed Trimmed-Mean PCE (Apr) Chicago PMI (May) Underlying NIPA Tables (Q1, 2nd Estimate)
June 3 Construction (Apr) ISM Manufacturing (May) S&P Global Mfg PMI (May)	**4** JOLTS (Apr) Manufacturers' Shipments, Inventories & Orders (Apr) BEA Auto & Truck Sales (Apr)	**5** ADP Employment Report (May) ISM Services PMI (May) S&P Global Services PMI (May) EIA Crude Oil Stocks Mortgage Applications	**6** Productivity & Costs (Q1) International Trade (Apr) Challenger Employment Report (May) Public Debt (May) Interest on Public Debt (May) Weekly Jobless Claims	**7** Employment Situation (May) Wholesale Trade (Apr) Consumer Credit (Apr) Treasury Auction Allotments (May) Financial Accounts (Q1) Baker Hughes International Rig Count (May)

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Exhibit TJB-3

All major electric utilities located in the eastern region of the United States are reviewed in this Issue; western-based electrics, in Issue 11; and the remaining industry participants, in Issue 5. Since our last review of the Electric Utility (East) group three months ago, utility stocks covered in *The Value Line Investment Survey* increased 3.1% in value on average versus a 3.7% gain in the S&P 500. Meanwhile, the industry's Timeliness rank has moved up to 66 (of 93) from 80.

During the past year, utilities under our coverage have declined 12.1% versus a 13.6% increase in *The Value Line Arithmetic Index*. The rise in interest rates through much of 2023 weighed heavily on utility stocks. The equities have only begun to recover some in more recent months as the uptrend in rates has paused. Because U.S. debt securities provide a competitive investment vehicle to the stocks in this industry, it's important to be cognizant of the spread between the benchmark 10-year Treasury rate (4.63%) and the dividend yields on electric utilities (4.0% on average).

Though the aforementioned spread is important, expectations of where interest rates will go next is the key factor that will drive this rate-sensitive group's performance. The other major factor is how investors feel about the prospects for the economy in general. Overall, this is a defensive industry with low-Beta stocks that tend to outperform when investors rotate out of economically-sensitive, higher-Beta stocks.

Portfolio Considerations

With the uptick in share prices over the past three months, 3- to 5-year total annual return potential for electrics has fallen a bit, to 10.2% on average from 10.9%. The new level is still towards the high end of what we've witnessed over the past two to three years, and there are some decent intermediate values to be found among this group. Additionally, if interest rates begin to drop again, it's highly likely that well-positioned electrics will rebound further.

However, while many stocks within the Electric Utility (East) Industry remain depressed relative to their highs of a couple of years ago, we're not overly bullish on this group. Over the past several months, we've lowered our 3- to 5-year targeted earnings multiples and raised our dividend yield expectations, as the higher-for-longer scenario of the world's central banks seems to be the new normal. In other words, interest rates were in a secular downtrend for decades, with cyclical interruptions along the way. If that course has reversed, it's a big negative for rate-sensitive utilities.

Investors in this group can help their cause by being disciplined buyers. New commitments should only be made when the midpoint of our annual total return projection is at or above 12%. Emphasizing utilities with above-average dividend growth prospects is a good practice. The median is about 4.5% at present. Staying away from utilities in below-average regulatory climates and keeping a well-diversified group of dividend payers are also good practices to follow.

At present, we like *Eversource Energy* as it possesses all of the aforementioned qualities. We also think *FirstEnergy* is close to being a good long-term buy at the recent price and is a name to keep on the watch list. Another stock that's particularly notable in this Issue is *Avangrid*, as its majority shareholder, Iberdrola of Spain, has proposed an all-cash buyout of the public float at $34.25 per share.

INDUSTRY TIMELINESS: 66 (of 93)

Topical Subjects

Key challenges this industry is facing include the rise in interest rates and overall inflation. Due to how regulatory mechanisms work, some higher costs can rapidly be passed along to consumers. This is true of fluctuations in natural gas prices, for instance. Conventions differ among states, but most utilities suffer from some degree of regulatory lag and have to go through a rate-filing process with regulators in order to gain "rate relief." That's industry parlance for regulatory approval to charge customers, through higher delivery rates on the electric bill, for certain expenses previously or about to be incurred. Notably, some companies are better situated and benefit from near real-time pricing adjustments with little regulatory lag on grid improvements.

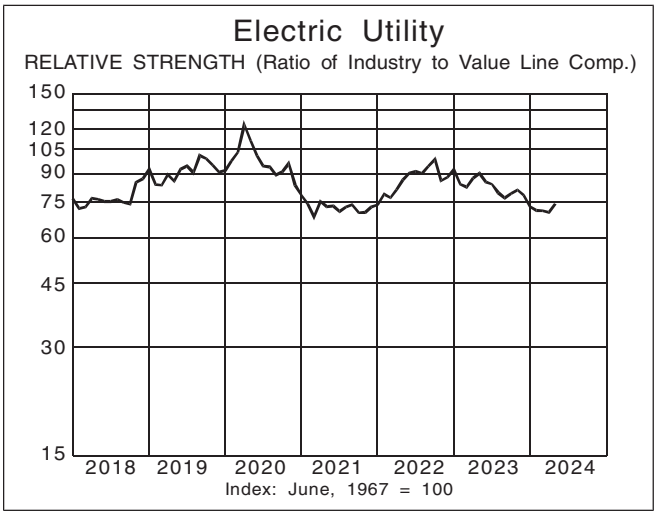
These challenges have been particularly troublesome for companies attempting to build and fund expensive and complicated renewables projects. This has been especially true of offshore wind generation, where the lead times are lengthy. The planning of those ventures took place under a different macroeconomic environment when borrowing, materials, and labor costs were far lower. As a result, many of those projects are only economic at higher electric rates than originally planned for.

Another major problem for this industry is the level of authorized return on equity (ROE) that's being set by some regulators. They're deriving ROEs based on a historically low and now out-of-date cost of capital. Note that the ROE applied to cumulative investments made in grid infrastructure (known as the rate base) is what drives revenue and profit levels for utilities.

Conclusion

Individual companies within this industry vary widely. The regulatory climate and the overall health of the underlying regional and local economies within a utility's service area are impactful. This includes demographics and migratory trends over time. States committing to progressive clean energy goals are generating a lot of invested capital opportunities for utilities, which should translate to improved earnings and dividend growth prospects. Selectivity is key for investors.

Anthony J. Glennon



CON. EDISON NYSE-ED

RECENT PRICE **93.97** | P/E RATIO **17.7** (Trailing: 18.6 Median: 18.0) | RELATIVE P/E RATIO **1.02** | DIV'D YLD **3.6%** | **VALUE LINE**

TIMELINESS 2 Raised 5/3/24
SAFETY 1 New 7/27/90
TECHNICAL 5 Lowered 5/3/24
BETA .80 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$81-$121 $101 (5%)

2027-29 PROJECTIONS

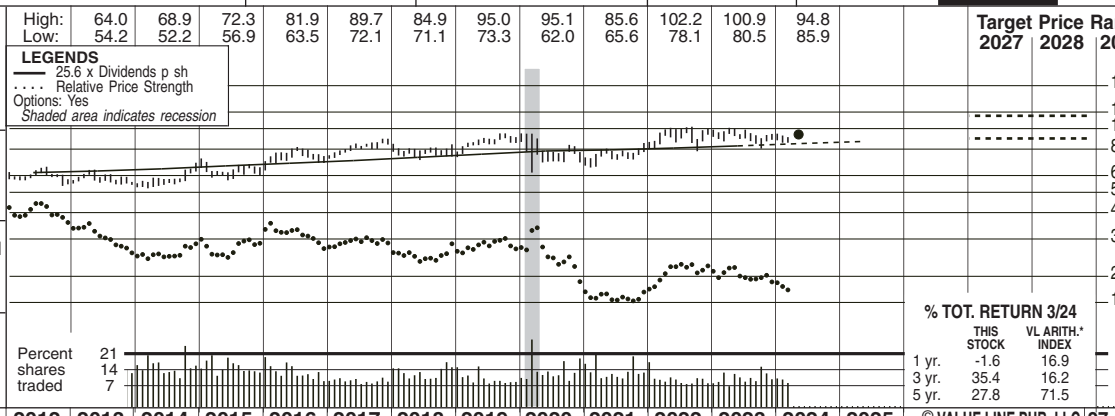
	Price	Gain	Ann'l Total Return
High	115	(+20%)	*9%*
Low	90	(-5%)	*3%*

Institutional Decisions

	2Q2023	3Q2023	4Q2023
to Buy	476	436	515
to Sell	461	483	450
Hld's(000)	224094	223737	230144

	64.0	68.9	72.3	81.9	89.7	84.9	95.0	95.1	85.6	102.2	100.9	94.8
High:	54.2	52.2	56.9	63.5	72.1	71.1	73.3	62.0	65.6	78.1	80.5	85.9

LEGENDS
25.6 x Dividends p sh
Relative Price Strength
Options: Yes
Shaded area indicates recession



% TOT. RETURN 3/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-1.6	16.9
3 yr.	35.4	16.2
5 yr.	27.8	71.5

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
49.62	46.36	45.69	44.17	41.62	42.27	44.11	42.85	39.59	38.82	38.44	37.80	35.78	38.63	44.15	42.45	***44.80***	***46.85***	Revenues per sh	***53.50***
5.99	5.86	6.24	6.61	7.15	7.45	7.30	7.93	7.89	8.41	8.92	9.39	9.70	10.06	10.36	10.98	***12.10***	***12.70***	"Cash Flow" per sh	***14.60***
3.36	3.14	3.47	3.57	3.86	3.93	3.62	4.05	3.94	4.10	4.55	4.37	4.17	4.38	4.55	5.04	***5.30***	***5.60***	Earnings per sh [A]	***6.60***
2.34	2.36	2.38	2.40	2.42	2.46	2.52	2.60	2.68	2.76	2.86	2.96	3.06	3.10	3.16	3.24	***3.32***	***3.40***	Div'd Decl'd per sh [B] ■	***3.95***
8.50	7.80	6.96	6.72	7.06	8.67	8.26	10.42	12.07	11.11	10.90	10.48	11.42	11.17	11.74	13.01	***14.40***	***14.50***	Cap'l Spending per sh	***15.50***
35.43	36.46	37.93	39.05	40.53	41.81	42.94	44.55	46.88	49.74	52.11	54.18	55.06	56.60	58.28	61.25	***63.50***	***65.75***	Book Value per sh [C]	***74.50***
273.72	281.12	291.62	292.89	292.87	292.87	292.88	293.00	305.00	310.00	320.96	332.63	342.30	353.98	354.96	345.42	***346.00***	***347.00***	Common Shs Outst'g [D]	***355.00***
12.3	12.5	13.3	15.1	15.4	14.7	15.9	15.6	18.8	19.8	17.1	19.7	19.0	17.2	20.3	18.4	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	***15.5***
.74	.83	.85	.95	.98	.83	.84	.79	.99	1.00	.92	1.05	.98	.93	1.17	1.03			Relative P/E Ratio	***.85***
5.7%	6.0%	5.2%	4.5%	4.1%	4.3%	4.4%	4.1%	3.6%	3.4%	3.7%	3.4%	3.9%	4.1%	3.4%	3.5%			Avg Ann'l Div'd Yield	***3.9%***
12919	12554	12075	12033	12337	12574	12246	13676	15670	14663	***15500***	***16250***	Revenues ($mill)	***19000***
1066.0	1193.0	1189.0	1266.0	1424.0	1438.0	1399.0	1528.0	1620.0	1762.0	***1835***	***1950***	Net Profit ($mill)	***2355***
34.0%	33.6%	35.3%	36.6%	20.1%	17.5%	12.9%	16.2%	15.4%	17.8%	***18.0%***	***18.0%***	Income Tax Rate	***18.0%***
.3%	.7%	1.3%	1.5%	1.5%	1.9%	2.2%	2.1%	3.4%	4.4%	***5.0%***	***5.0%***	AFUDC % to Net Profit	***5.0%***
48.0%	47.9%	50.8%	48.9%	51.1%	50.7%	52.0%	53.0%	49.3%	50.9%	***51.0%***	***51.0%***	Long-Term Debt Ratio	***52.0%***
52.0%	52.1%	49.2%	51.1%	48.9%	49.3%	48.0%	47.0%	50.7%	49.1%	***49.0%***	***49.0%***	Common Equity Ratio	***48.0%***
24207	25058	29033	30149	34221	36549	39229	42641	40834	43085	***44200***	***46750***	Total Capital ($mill)	***55000***
29827	32209	35216	37600	41749	43889	46555	48596	46766	49608	***52300***	***54800***	Net Plant ($mill)	***63200***
5.6%	6.0%	5.3%	5.4%	5.3%	5.1%	4.7%	4.7%	5.2%	5.2%	***5.0%***	***5.0%***	Return on Total Cap'l	***5.5%***
8.5%	9.1%	8.3%	8.2%	8.5%	8.0%	7.4%	7.6%	7.8%	8.3%	***8.5%***	***8.5%***	Return on Shr. Equity	***9.0%***
8.5%	9.1%	8.3%	8.2%	8.5%	8.0%	7.4%	7.6%	7.8%	8.3%	***8.5%***	***8.5%***	Return on Com Equity [E]	***9.0%***
2.6%	3.5%	3.0%	3.0%	3.5%	2.9%	2.2%	2.5%	2.6%	3.1%	***3.0%***	***3.5%***	Retained to Com Eq	***3.5%***
69%	61%	64%	63%	59%	64%	70%	67%	67%	62%	***63%***	***60%***	All Div'ds to Net Prof	***60%***

CAPITAL STRUCTURE as of 12/31/23
Total Debt $24465 mill. **Due in 5 Yrs** $1730 mill.
LT Debt $21927 mill. **LT Interest** $962 mill.
(Total Interest Coverage: 3.0x)

Leases, Uncapitalized Annual rentals $70 mill.

Pension Assets-12/23 $15404 mill.
Oblig. $12712 mill.

Pfd Stock None

Common Stock 345,510,031 shs.
as of 1/31/24
MARKET CAP: $32.5 billion (Large Cap)

CECONY ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Electric Sales (GWH)	-.5	+3.3	-1.4
Annual Residential Use (GWH)	11344	11875	11574
Annual Comm./Ind. Use (GWH)	9250	10522	10895
Annual Retail Choice (GWH)	21549	21116	20315
Annual Govt. & Other Use (GWH)	9185	9507	9472
% Change Customers (yr-end)	NA	NA	NA
Peak Load, Summer (MW)	13517	12424	11565
ConEd Fixed Charge Cov. (%)	352	240	217

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	- -	1.5%	*4.0%*
"Cash Flow"	4.0%	4.5%	*5.5%*
Earnings	2.0%	2.0%	*6.0%*
Dividends	2.5%	2.5%	*3.5%*
Book Value	4.0%	3.5%	*4.5%*

QUARTERLY REVENUES ($ mill.) [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	3677	2971	3613	3415	13676
2022	4060	3415	4165	4031	15670
2023	4403	2944	3872	3444	14663
2024	*4400*	*3125*	*4250*	*3725*	*15500*
2025	*4525*	*3275*	*4550*	*3900*	*16250*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	1.44	.53	1.41	1.00	4.38
2022	1.47	.64	1.63	.81	4.55
2023	1.82	.61	1.61	1.00	5.04
2024	*1.85*	*.65*	*1.80*	*1.00*	*5.30*
2025	*1.90*	*.70*	*1.90*	*1.10*	*5.60*

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.765	.765	.765	.765	3.06
2021	.775	.775	.775	.775	3.10
2022	.79	.79	.79	.79	3.16
2023	.81	.81	.81	.81	3.24
2024	.83				

BUSINESS: Consolidated Edison, Inc. (ConEd) is a holding company for Consolidated Edison Company of New York (CECONY), which sells electricity, gas, and steam in most of NY city and Westchester County. ConEd also owns Orange and Rockland utilities (O&R), which operates in southeastern NY and northern NJ. ConEd has 4.0 mill. electric and 1.3 mill. gas customers. Sold its portfolio of renewable power generation for $6.8 billion (3/23). Entered into midstream gas joint venture 6/16; sold it 7/21. Purchases most of its power. Fuel costs: 24% of revenues. '23 depreciation rate for CECONY: 3.6%. Employs about 14,600. Chairman, Pres., and CEO: Timothy Cawley. Inc.: NY. Addr.: 4 Irving Place, NY, NY 10003. Tel.: 212-460-4600. Internet.: www.conedison.com.

Consolidated Edison is enjoying a renaissance, driven by New York's clean energy goals. ConEd's earliest corporate entity, the New York Gas Light Company, received a state charter to install natural gas lines in lower Manhattan more than 200 years ago. Gas lanterns would light the city for a time, replacing the whale oil lamps that dated to the mid-18th century. The company was listed on the New York Stock Exchange in 1824 and is the longest continuously listed issue on the NYSE. In the early 20th century, it expanded into electricity and was renamed as Consolidated Edison Company of New York in 1936. To say that ConEd is a mature company would be an understatement. Earnings per share had slowed to about a 3% annual growth rate for the opening decade of the 21st century, and 1.8% in the second 10-year stretch, before starting to improve more recently. Most of its service area was fully built out decades ago, leaving very little new investments to be made in transmission and distribution work. That all changed when New York State decided to "go green" in a big way, and ConEd is reaping the rewards.

The company reaffirmed its 5%-7% bottom-line growth target through late decade. New York is a difficult regulatory environment, but in its latest rate case, which concluded last year, the utility held a solid bargaining position. ConEd needed a reasonable increase in its regulated return on equity (ROE), from the former 8.8%, before committing billions in modernization work, necessary to prepare the grid to receive renewable energy interfaces. As a result of last year's rate decision, the company is now at a 9.25% ROE, which translated into annualized price increases for electric and gas of $442 million and $217 million, respectively, from August of 2023. Additional increases of $518 million for electric and $173 million for gas take effect this summer, followed by another hike in August, 2025 of $382 million and $122 million, respectively. ConEd is now in the upper tier of its industry in terms of earnings growth prospects.

This equity is timely. However, investors with a longer-term bent should wait for a decent pullback, as total return potential is subpar at the recent quote.

Anthony J. Glennon *May 10, 2024*

(A) Diluted EPS. Excl. nonrec. gains/losses: '13, d32¢; '14, 9¢; '16, 18¢; '17, 84¢; '18, d13¢; '19, d29¢; '20, d89¢; '21, d53¢; '22, 11¢; '23, $2.17. Excl. gain on disc. ops.: '08, $1.01. Next egs. report due early August. Quarterly figures may not sum to full year due to rounding. **(B)** Div'ds paid in mid-Mar., June, Sept., and Dec. ■ Div'd reinvestment plan available. **(C)** Incl. intang. In '23: $14.52/sh. **(D)** In mill. **(E)** Rate base: net orig. cost. Rate allowed on com. eq. for CECONY in '23: 9.25%; O&R in '22: 9.2%. Regulatory Climate: Below Average.

Company's Financial Strength	A+
Stock's Price Stability	90
Price Growth Persistence	45
Earnings Predictability	100

DUKE ENERGY NYSE-DUK

RECENT PRICE **98.73** | P/E RATIO **16.5** (Trailing: 17.8 Median: 18.0) | RELATIVE P/E RATIO **0.95** | DIV'D YLD **4.2%** | **VALUE LINE**

TIMELINESS 3 Raised 11/24/23
SAFETY 2 New 6/1/07
TECHNICAL 4 Lowered 3/29/24
BETA .90 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$87-$133 $110 (10%)

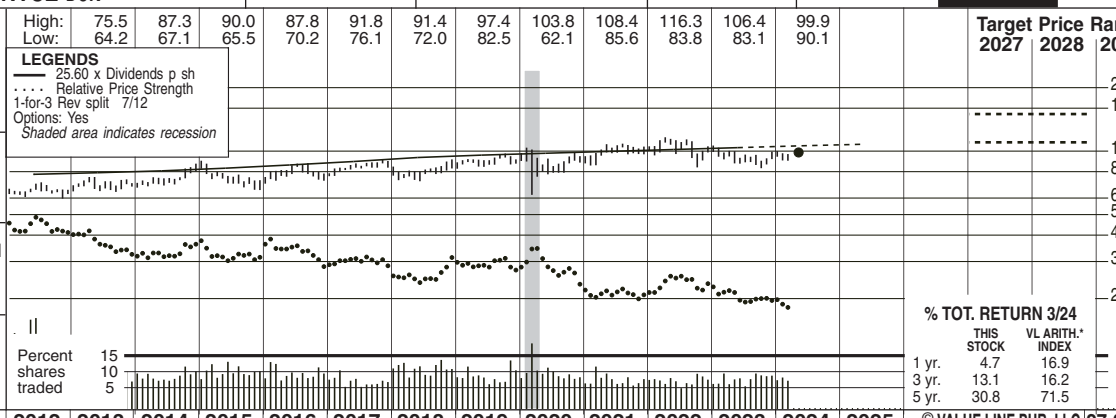
2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	150	(+50%)	*14%*
Low	110	(+10%)	*7%*

Institutional Decisions

	2Q2023	3Q2023	4Q2023
to Buy	852	830	838
to Sell	753	745	864
Hld's(000)	495714	500344	505574

	75.5	87.3	90.0	87.8	91.8	91.4	97.4	103.8	108.4	116.3	106.4	99.9
High:	64.2	67.1	65.5	70.2	76.1	72.0	82.5	62.1	85.6	83.8	83.1	90.1
Low:												



% TOT. RETURN 3/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	4.7	16.9
3 yr.	13.1	16.2
5 yr.	30.8	71.5

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
31.15	29.18	32.22	32.63	27.88	34.84	33.84	34.10	32.49	33.66	33.73	34.21	31.04	32.64	37.36	37.69	***38.85***	***40.25***	Revenues per sh	***42.40***
7.34	7.58	8.49	8.68	6.80	8.56	9.11	9.40	9.20	10.01	11.05	12.12	12.04	12.60	12.91	13.22	***13.55***	***13.90***	"Cash Flow" per sh	***15.05***
3.03	3.39	4.02	4.14	3.71	3.98	4.13	4.10	3.71	4.22	4.72	5.06	5.12	5.24	5.27	5.56	***6.00***	***6.35***	Earnings per sh [A]	***7.60***
2.70	2.82	2.91	2.97	3.03	3.09	3.15	3.24	3.36	3.49	3.64	3.75	3.82	3.90	3.98	4.06	***4.14***	***4.22***	Div'd Decl'd per sh [B] ■	***4.30***
10.35	9.85	10.84	9.80	7.81	7.83	7.62	9.83	11.29	11.50	12.91	15.17	12.88	12.63	14.76	16.35	***17.60***	***17.75***	Cap'l Spending per sh	***16.75***
49.51	49.85	50.84	51.14	58.04	58.54	57.81	57.74	58.62	59.63	60.27	61.20	59.82	61.55	61.51	63.70	***66.25***	***68.65***	Book Value per sh [C]	***70.00***
423.96	436.29	442.96	445.29	704.00	706.00	707.00	688.00	700.00	700.00	727.00	733.00	769.00	769.00	770.00	771.00	***772.00***	***773.00***	Common Shs Outst'g [D]	***775.00***
17.3	13.3	12.7	13.8	17.5	17.4	17.9	18.2	21.3	19.9	17.0	17.7	17.1	18.9	19.6	16.9	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	***17.0***
1.04	.89	.81	.87	1.11	.98	.94	.92	1.12	1.00	.92	.94	.88	1.02	1.14	.94			Relative P/E Ratio	***.95***
5.2%	6.2%	5.7%	5.2%	4.7%	4.4%	4.3%	4.3%	4.3%	4.2%	4.5%	4.2%	4.4%	3.9%	3.9%	4.3%			Avg Ann'l Div'd Yield	***3.9%***
23925	23459	22743	23565	24521	25079	23868	25097	28768	29060	***30000***	***31100***	Revenues ($mill)	***32850***
2934.0	2854.0	2560.0	2963.0	3339.0	3748.0	1377.0	3908.0	2550.0	2841.0	***3350***	***3825***	Net Profit ($mill)	***4775***
30.6%	32.2%	31.0%	30.4%	14.1%	12.7%	.3%	5.1%	7.4%	9.2%	***9.0%***	***9.0%***	Income Tax Rate	***9.0%***
7.2%	9.2%	11.7%	12.3%	11.4%	8.0%	6.9%	5.9%	8.1%	7.1%	***7.0%***	***7.0%***	AFUDC % to Net Profit	***7.0%***
47.7%	48.6%	52.6%	54.0%	53.8%	54.0%	53.7%	55.1%	56.1%	59.6%	***58.5%***	***58.5%***	Long-Term Debt Ratio	***61.0%***
52.3%	51.4%	47.4%	46.0%	46.2%	44.1%	44.4%	43.1%	42.5%	40.4%	***41.0%***	***40.5%***	Common Equity Ratio	***37.5%***
78088	77222	86609	90774	94940	101807	103589	109744	115235	121564	***124525***	***125500***	Total Capital ($mill)	***144100***
70046	75709	82520	86391	91694	102127	106782	111408	111748	115315	***124375***	***132500***	Net Plant ($mill)	***141100***
4.8%	4.8%	4.0%	4.3%	4.6%	4.7%	4.8%	4.8%	2.0%	2.3%	***4.5%***	***4.5%***	Return on Total Cap'l	***4.5%***
7.2%	7.2%	6.2%	7.1%	7.6%	8.0%	8.1%	8.4%	5.2%	5.8%	***9.0%***	***9.0%***	Return on Shr. Equity	***9.0%***
7.2%	7.2%	6.2%	7.1%	7.6%	8.3%	8.2%	8.5%	5.2%	5.8%	***9.0%***	***9.0%***	Return on Com Equity [E]	***9.0%***
1.7%	1.5%	.6%	1.2%	2.0%	2.4%	2.3%	1.9%	1.5%	1.8%	***2.5%***	***2.5%***	Retained to Com Eq	***3.0%***
76%	79%	91%	83%	74%	71%	73%	78%	76%	73%	***73%***	***73%***	All Div'ds to Net Prof	***68%***

CAPITAL STRUCTURE as of 12/31/23
Total Debt $75252 mill. **Due in 5 Yrs** $19536 mill.
LT Debt $72452 mill. **LT Interest** $2206 mill.
Incl. $915 mill. finance leases.
(LT interest earned: 2.7x)
Leases, Uncapitalized Annual rentals $225 mill.
Pension Assets-12/23 $6993 mill.
Oblig $8207 mill.
Pfd Stock $1962 mill. **Pfd Div'd** $107 mill.
40 mill. shs. 5.75%, cum., $25 liq. value, redeemable at $25.50 prior to 6/15/24; 1 mill. shs. 4.875%, cum., $1000 liq. value.
Common Stock 770,811,446 shs. **as of 1/31/24**
MARKET CAP: $76.1 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	+2.0	NA	NA
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (avg.)	NA	NA	NA
Fixed Charge Cov. (%)	209	285	NA

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	.5%	-.5%	*2.5%*
"Cash Flow"	4.0%	5.0%	*5.0%*
Earnings	3.0%	4.5%	*5.0%*
Dividends	3.0%	3.5%	*2.0%*
Book Value	2.0%	1.0%	*2.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	6150	5758	6951	6238	25097
2022	7132	6685	7968	6983	28768
2023	7276	6578	7994	7212	29060
2024	***7350***	***6650***	***8250***	***7750***	***30000***
2025	***7700***	***6850***	***8450***	***8100***	***31100***

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	1.26	1.15	1.88	.94	5.24
2022	1.30	1.14	1.78	1.11	5.27
2023	1.20	.91	1.94	1.51	5.56
2024	***1.40***	***1.05***	***2.05***	***1.50***	***6.00***
2025	***1.40***	***1.35***	***2.10***	***1.50***	***6.35***

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.945	.945	.965	.965	3.82
2021	.965	.965	.985	.985	3.90
2022	.985	.985	1.005	1.005	3.98
2023	1.005	1.005	1.025	1.025	4.06
2024	1.025				

BUSINESS: Duke Energy Corporation is a holding company for utilities with 7.6 mill. elec. customers in NC, FL, IN, SC, OH, and KY, and 1.6 mill. gas customers in OH, KY, NC, SC, and TN. Owns independent power plants & has 25% stake in National Methanol in Saudi Arabia. Acq'd Progress Energy 7/12; Piedmont Natural Gas 10/16; discontinued most int'l ops. in '16. Elec. rev. breakdown: residential, 45%; commercial, 28%; industrial, 13%; other, 14%. Generating sources: gas, 32%; nuclear, 30%; coal, 18%; other, 1%; purchased, 19%. Fuel costs: 28% of revs. '22 reported deprec. rate: 3.6%. Has 27,600 employees. Chairman, President & CEO: Lynn J. Good. Inc.: DE. Address: 550 South Tryon St., Charlotte, NC 28202-1803. Tel.: 704-382-3853. Internet: www.duke-energy.com.

Duke Energy recently filed some rate cases. In Indiana, the utility filed for a hike of $492 million (16%) over 2026 for its investments in improving the electric grid. In North Carolina, Piedmont Gas is seeking recovery for its infrastructure investments to improve reliability, an overall 11.7% increase. And, Duke Energy Florida requested an increase of approximately $820 million between 2025-2027 to increase efficiency, reduce outages, and add 14 new solar sites.

We are sticking with our 2024 earnings-per-share estimate of $6.00. This is around the midpoint of the company's targeted range of $5.85-$6.10 per share. Management also reaffirmed its long-term profit growth target of 5%-7% annually through 2028. We think rate relief and growing power demand will produce a 8% rise in earnings this year, and a 6% increase in 2025. Duke Energy expects its power demand to grow by 1.5%-2% annually in the near-term and looks for a sharper rise of 2.5% a year over the next decade or so. The adoption of electric vehicles should make up about 40% of this increase. Meanwhile, the company's earnings over the next few years should benefit from the aforementioned pending rate cases and energy-efficiency programs.

Duke remains focused on improving the electricity grid and providing solar investments. The utility recently completed its Bad Creek upgrade, which added 320 MWh of energy to support electricity demand. The upgrades took four years to complete and the total capacity of the station is now 1,680 MWh, enough to power over a million homes. The company is looking to extend its license of the Bad Creek facility and potentially add a second powerhouse at the site.

This issue is tailor made for income-oriented accounts. Duke stock has an above-average dividend yield for a utility. And, the company has proven to be one of the better-managed and best-performing utilities in the industry. We also slightly increased our 3- to 5-year Target Price Range, and now look for these shares to trade around $110-$150 over that interim. At the current quotation, however, long-term capital appreciation potential is nothing to write home about.

Zachary J. Hodgkinson *May 10, 2024*

(A) Dil. EPS. Excl. net nonrec. losses: '12, 64¢; '13, 22¢; '14, 59¢; '15, 5¢; '16, 60¢; '18, 96; '20, $3.40; '21, 30¢; net nonrec gain: '17, 14¢. 2021 EPS may not sum to annual due to rounding. Next egs. due early Aug. **(B)** Div'ds paid mid-Mar., June, Sept., & Dec. ■ Div'd reinv. plan avail. **(C)** Incl. intang. In '22: $41.34/sh. **(D)** In mill., **(E)** Rate base: Net orig. cost. Rate all'd on com. eq. in '21 in NC: 9.6%; 9.5%; in '20 in FL: 9.5%-11.5%; in '20 in IN: 9.7%. in '19 in SC:9.5%; Reg. Clim.: NC, SC Avg.; OH, IN Above Avg.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	45
Earnings Predictability	100

P.S. ENTERPRISE GP. NYSE-PEG

RECENT PRICE **68.64** | P/E RATIO **18.8** (Trailing: 19.7 Median: 16.0) | RELATIVE P/E RATIO **1.08** | DIV'D YLD **3.5%** | **VALUE LINE**

TIMELINESS 4 Lowered 2/9/24
SAFETY 1 Raised 11/23/12
TECHNICAL 3 Raised 5/10/24
BETA .95 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$59-$85	$72 (5%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	80	(+15%)	*7%*
Low	65	(-5%)	*3%*

Institutional Decisions

	2Q2023	3Q2023	4Q2023
to Buy	395	412	493
to Sell	396	399	385
Hld's(000)	362902	368948	370095

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High:	37.0	43.8	44.4	47.4	53.3	56.7	63.9	62.2	67.1	75.6	65.5	68.9						
Low:	29.7	31.3	36.8	37.8	41.7	46.2	50.0	34.8	53.8	52.5	53.7	56.8						

Target Price Range 2027 | 2028 | 2029

% TOT. RETURN 3/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	10.9	16.9
3 yr.	23.1	16.2
5 yr.	32.4	71.5

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
	27.94	24.57	23.31	22.42	19.33	19.71	21.52	20.61	18.22	18.14	19.24	19.99	19.05	19.29	19.72	22.56	*22.25*	*24.40*	Revenues per sh	*27.75*
	4.68	4.98	5.27	5.36	4.87	5.17	5.82	5.75	5.07	5.30	5.81	6.14	6.37	6.46	6.08	6.16	*6.50*	*6.90*	"Cash Flow" per sh	*8.10*
	2.90	3.08	3.07	3.11	2.44	2.45	2.99	2.91	2.83	2.82	3.12	3.28	3.43	3.65	3.47	3.48	*3.65*	*3.90*	Earnings per sh [A]	*4.65*
	1.29	1.33	1.37	1.37	1.42	1.44	1.48	1.56	1.64	1.72	1.80	1.88	1.96	2.04	2.16	2.28	*2.40*	*2.52*	Div'd Decl'd per sh [B] ■	*2.90*
	3.50	3.55	4.27	4.12	5.09	5.56	5.58	7.65	8.32	8.30	7.76	6.28	5.80	5.39	5.81	6.68	*7.20*	*7.30*	Cap'l Spending per sh	*9.00*
	15.36	17.37	19.04	20.30	21.31	22.95	24.09	25.86	26.01	27.42	28.53	29.94	31.71	28.65	27.62	31.08	*32.40*	*33.85*	Book Value per sh [C]	*39.00*
	506.02	505.99	505.97	505.95	505.89	505.86	505.84	505.28	504.87	505.00	504.00	504.00	504.00	504.00	497.00	498.00	*499.00*	*500.00*	Common Shs Outst'g [D]	*505.00*
	13.6	10.0	10.4	10.4	12.8	13.5	12.6	14.1	15.3	16.3	16.6	18.0	15.7	16.8	18.5	17.7	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*15.5*
	.82	.67	.66	.65	.81	.76	.66	.71	.80	.82	.90	.96	.81	.91	1.07	.99			Relative P/E Ratio	*.85*
	3.3%	4.3%	4.3%	4.2%	4.6%	4.4%	3.9%	3.8%	3.8%	3.7%	3.5%	3.2%	3.6%	3.3%	3.4%	3.7%			Avg Ann'l Div'd Yield	*4.0%*
	10886	10415	9198.0	9161.0	9696.0	10076	9603.0	9722.0	9800.0	11237	*11100*	*12200*	Revenues ($mill)	*14500*
	1518.0	1476.0	1436.0	1431.0	1582.0	1666.0	1741.0	1853.0	1739.0	1742.0	*1830*	*1960*	Net Profit ($mill)	*2350*
	38.2%	37.4%	31.7%	37.3%	23.7%	32.2%	14.3%	19.5%	13.7%	10.1%	*20.0%*	*20.0%*	Income Tax Rate	*20.0%*
	4.5%	6.2%	8.4%	10.6%	8.7%	6.5%	7.0%	5.5%	5.1%	5.3%	*5.0%*	*5.0%*	AFUDC % to Net Profit	*5.0%*
	40.4%	40.3%	45.3%	46.6%	47.8%	47.7%	47.6%	51.3%	54.6%	53.5%	*54.5%*	*55.5%*	Long-Term Debt Ratio	*58.5%*
	59.6%	59.7%	54.7%	53.4%	52.2%	52.3%	52.4%	48.7%	45.4%	46.5%	*45.5%*	*44.5%*	Common Equity Ratio	*41.5%*
	20446	21900	24025	25915	27545	28832	30480	29657	30224	33261	*35600*	*37900*	Total Capital ($mill)	*47500*
	23589	26539	29286	31797	34363	35844	37585	34366	35942	38031	*40250*	*42400*	Net Plant ($mill)	*51400*
	8.4%	7.6%	6.8%	6.4%	6.7%	6.7%	6.6%	7.1%	6.7%	6.4%	*6.0%*	*6.5%*	Return on Total Cap'l	*6.0%*
	12.5%	11.3%	10.9%	10.3%	11.0%	11.0%	10.9%	12.8%	12.7%	11.3%	*11.5%*	*11.5%*	Return on Shr. Equity	*12.0%*
	12.5%	11.3%	10.9%	10.3%	11.0%	11.0%	10.9%	12.8%	12.7%	11.3%	*11.5%*	*11.5%*	Return on Com Equity [E]	*12.0%*
	6.3%	5.3%	4.6%	4.1%	4.7%	4.7%	4.7%	5.7%	4.8%	3.9%	*4.0%*	*4.0%*	Retained to Com Eq	*4.5%*
	49%	53%	58%	61%	58%	57%	57%	56%	62%	65%	*65%*	*64%*	All Div'ds to Net Prof	*62%*

CAPITAL STRUCTURE as of 3/31/24
Total Debt $21789 mill. **Due in 5 Yrs** $6950 mill.
LT Debt $18764 mill. **LT Interest** $765 mill.
(Total Interest coverage: 3.1x)

Leases, Uncapitalized Annual rentals $35 mill.

Pension Assets-12/23 $4140 mill.
Oblig. $4758 mill.

Pfd Stock None

Common Stock 498,080,467 shs.
as of 4/16/24
MARKET CAP: $34.2 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	+1.3	+1.6	-4.2
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH(¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (avg.)	+.9	+.9	+.9
Fixed Charge Cov. (%)	403	297	285

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	- -	2.0%	*4.5%*
"Cash Flow"	2.0%	3.0%	*4.5%*
Earnings	3.0%	4.0%	*5.0%*
Dividends	4.5%	4.5%	*5.0%*
Book Value	3.0%	1.5%	*5.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	2889	1874	1903	3056	9722
2022	2313	2076	2272	3139	9800
2023	3755	2421	2456	2605	11237
2024	2760	*2590*	*2750*	*3000*	*11100*
2025	*3500*	*2650*	*2900*	*3150*	*12200*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	1.28	.70	.98	.69	3.65
2022	1.33	.64	.86	.64	3.47
2023	1.39	.70	.85	.54	3.48
2024	1.31	*.77*	*.95*	*.62*	*3.65*
2025	*1.41*	*.82*	*1.01*	*.66*	*3.90*

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.49	.49	.49	.49	1.96
2021	.51	.51	.51	.51	2.04
2022	.54	.54	.54	.54	2.16
2023	.57	.57	.57	.57	2.28
2024	.60				

BUSINESS: Public Service Enterprise Group Inc. (PSEG) is a holding company for Public Service Electric and Gas Company (PSE&G), which serves 2.4 million electric and 1.9 million gas customers in NJ, and PSEG Power LLC, a nonregulated power generator with 5 nuclear plants in the Northeast (sold fossil-fuel generation, 2/22). Divested offshore wind assets (5/23). Percentage of electric sales: Commercial (58%); Residential (33%); Industrial (9%). Fuel costs: 41% of revenues. '23 reported depreciation rates (utility): 1.84%-2.54%. Employs approximately 12,500. Chair of the Board, President and CEO: Ralph A. LaRossa. Inc.: New Jersey. Address: 80 Park Plaza, P.O. Box 1171, Newark, New Jersey 07101-1171. Tel.: 973-430-7000. Internet: www.pseg.com.

Public Service Enterprise Group has been one of the top-performing electric utilities, of late. The equity held up better than most peers last year in a weak overall period for the group, which has a high negative correlation with rising interest rates. PSEG shares are up 28% from their October low and 12% year to date, outperforming the *Value Line Utility Index* by 18 percentage points (PPs) and 13 PPs, respectively. Investors apparently appreciate the lower risk of a nearly pure-play utility. The only significant business held outside of the regulatory pricing umbrella is the company's nuclear power generators, which provide a steady stream of cash flow to the company. PSEG's balance sheet is in good shape, interest expense is well covered by profits, and a relatively low amount of debt comes due in the next five years. There is also no intermediate-term need to do a major equity offering, which dilutes existing shareholders. The dividend was recently raised by 5.3% and the payout ratio is near the industry median. Longer-term growth prospects for both earnings and dividends are slightly above the peer-group average.

Profits should be up this year. Utility revenue is rising due to regulatory pricing mechanisms that allow for nearly real-time returns on capital deployed for electric grid improvements. Relatively mild weather in the second half of 2023 provides a somewhat easy comparison, while interest expense and pension contributions are likely to moderate. Management recently affirmed its earnings target of $3.60-$3.70 per share for 2024 and its 5%-7% annual growth expectation through late decade (supported by New Jersey's clean energy goals).

PSEG wants to extend the life of its nuclear power plants. The company hopes to receive federal approval to keep its units operational for 20 additional years, extending the average life to 2061.

The valuation has gotten a little rich as a result of the stock's outperformance. The P/E multiple, at 18.8 times 2024 expected earnings, compares unfavorably to PSEG's electric utility peer median of 16.1. Total return prospects look somewhat limited over the longer term and the stock is untimely.

Anthony J. Glennon *May 10, 2024*

(A) Diluted EPS. Excl. nonrec. gains/(losses): '08, (96¢); '09, 6¢; '11, (34¢); '12, 7¢; '15, 39¢; '16, ($1.08); '17, 28¢ (net); '18, (29¢); '19, 5¢; '20, 33¢; '21, ($4.94); '22, ($1.41); '23, $1.65; disc. ops.: '08, 40¢; '10, 1¢; '11, 19¢. Next egs. report due late July.
(B) Div'ds historically paid in late Mar., June, Sept., & Dec. ■ Div'd reinvestment plan avail.
(C) Incl. intangibles. In '23: $13.36/sh.
(D) In mill., adj. for '08 split. **(E)** Rate base: Net original cost. Rate allowed on common equity in '21: 9.9%-10.4%; Regulatory Climate: Avg.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	60
Earnings Predictability	100

All major electric utilities located in the Western region of the United States are reviewed in this Issue; Eastern-based electrics, in Issue 1; and the remainder in Issue 5. Since our January review of the Electric Utility (West) group, utility stocks covered in *The Value Line Investment Survey* fell 3.3% in value on average, compared to a 9.2% increase in the S&P 500.

On a 12-month basis, utilities under our coverage have declined 14.6% versus a 16.2% gain in the *Value Line Arithmetic Index*. The sharp rise in interest rates through mid-October, when the 10-year Treasury yield hit 4.98%, a level last seen in 2007, depressed utility values. Treasurys provide a competitive investment vehicle, so it's important to be mindful of the spread between bond rates and the dividend yields on utilities (recently 4.02% on average). As rates fell 110 basis points, from 4.98% in mid-October to 3.88% in late December, utility stocks rallied. Year to date, however, they're back to underperforming, as the 10-year Treasury yield has risen to 4.42%.

With this year's drop in utility share prices, 3- to 5-year total annual return potential for this group has risen to 10.5% from 8.6% three months ago. Although there is a generally reduced risk level in owning utilities, given that they're regulated monopolies, we like to see the prospect of at least 10%-11% total returns for a given equity before recommending it. That level is in line with historical returns for the broader market.

INDUSTRY TIMELINESS: 84 (of 93)

Utility Portfolio Considerations

While many equities within the Electric Utility (West) Industry remain depressed relative to their highs of a few years ago, we're not overly bullish on this industry. If interest rates fall, it's highly likely that well-positioned utility stocks will perform relatively well. But, we think it's doubtful that the overly favorable backdrop for interest-rate sensitive stocks, often witnessed over the past several years, is on its way back. In long-term historical terms, if interest rates on government bonds normalized to the mid- to high-single-digit range, utilities would be relatively overvalued.

Utility investors can help their cause by being disciplined buyers. New commitments should be made when the midpoint of the annual total return projections are no less than 11%. It would also be a good practice to emphasize utilities with above-average dividend growth prospects. We'd put the industry median at about 4.5% for that measure. Staying away from utilities in a poor regulatory climate is a good practice, as is keeping a well-diversified group of dividend-paying stocks.

Topical Considerations

Key challenges electrics are facing include higher interest rates and overall inflation. Due to how the regulatory mechanisms work, some costs can rapidly be passed on to consumers, such as natural gas prices. Others cannot and have to go through a filed rate-case process with regulators. The regulatory lag before recoupment may be as short as one year or less, but in some instances can drag on for a few years. Some companies are fortunate to have a very minimal lag on a reasonable percentage of outlays, owing to their approved use of near real-time pricing mechanisms.

Another recent problem for this industry is the level of authorized return on equity (ROE) that's being set by regulators. They're looking back to a time of historically low interest rates over the past several years and using that snap shot to price returns in the present. Note that the ROE applied to investments made in grid infrastructure (known as the rate base) is what drives profits in these regulated monopolies. Utilities recoup their investment plus a return on it through the regulatory-approved delivery rates they bill for.

High purchased power costs during peak load periods have been exacerbated by the shuttering of cheap and reliable coal generation in the West. We've also seen that under certain conditions, such as mild weather, the supply of "green" energy, including hydro, can get depressed. The impact is especially problematic because open-market power purchases are not necessarily an automatic and quick pass-through to consumers. This problem also represents an opportunity, as it increasingly makes sense for more generating capacity to be approved for utility ownership.

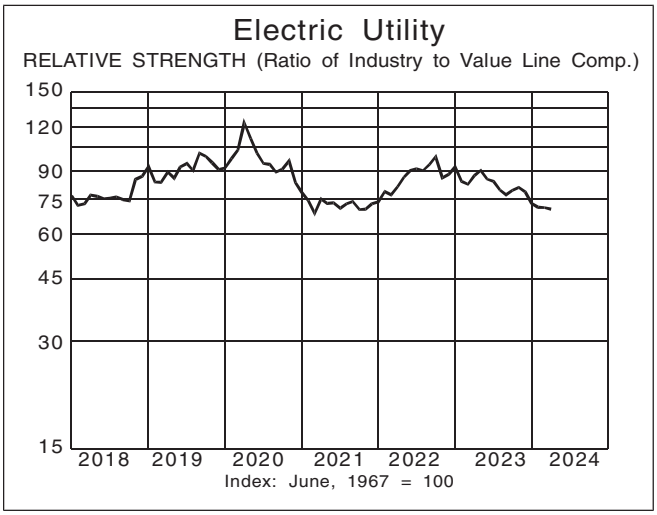
Lastly, with *PG&E Corp.* back within our coverage, and *Edison Int'l* embroiled in some new wildfire lawsuits, a discussion on business risk in California is always topical in the Electric Utility (West) Industry. Regarding the mounting lawsuits impacting *Hawaiian Electric* and to a lesser degree *Xcel Energy*, we'd refer subscribers to the respective company reviews.

The California Wildfire Fund, established in 2019, is a form of insurance for the state's three major electric utility holding corporations (*Sempra Energy* is the third), funded by the companies and their customer base up to $21 billion. Pre-2019 disasters are not covered and individual claims are paid after a $1 billion deductible is incurred. The fund covers catastrophic losses, but does not cover gross negligence. With this extra layer of protection above regular liability insurance, bankruptcy risk for the aforementioned California holding companies is very much reduced.

Conclusion

Individual utilities vary widely. Regulatory climate and the overall health of the underlying regional and local economies encompassed within a service area are impactful. And, states with progressive renewable-energy goals are providing solid growth prospects to utilities. As always, investors need to be selective.

Anthony J. Glennon



AVISTA CORP. NYSE-AVA

RECENT PRICE **35.44** | P/E RATIO **14.6** (Trailing: 15.9 Median: 19.0) | RELATIVE P/E RATIO **0.79** | DIV'D YLD **5.4%** | **VALUE LINE**

TIMELINESS 3 Lowered 2/9/24
SAFETY 3 Lowered 1/19/24
TECHNICAL 5 Lowered 4/19/24
BETA .95 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$28-$55 $42 (15%)

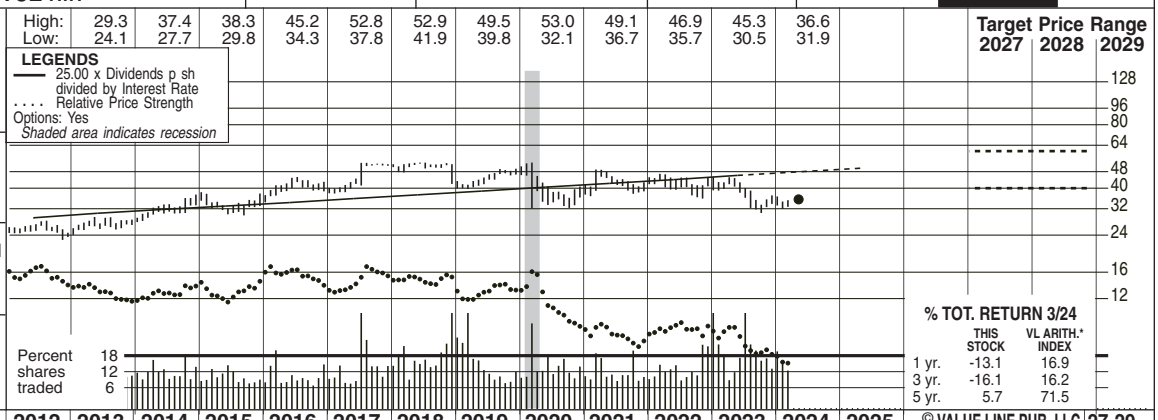
2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	60	(+70%)	*18%*
Low	40	(+15%)	*9%*

Institutional Decisions

	2Q2023	3Q2023	4Q2023
to Buy	109	141	146
to Sell	133	115	121
Hld's(000)	67636	65779	66647

	2027	2028	2029
Target Price Range			



% TOT. RETURN 3/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-13.1	16.9
3 yr.	-16.1	16.2
5 yr.	5.7	71.5

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
30.77	27.58	27.29	27.73	25.86	26.94	23.66	23.83	22.47	22.08	21.27	20.03	19.09	20.13	22.82	22.43	***21.50***	***22.00***	Revenues per sh	***23.50***
3.98	4.45	3.62	3.78	3.70	4.36	4.36	4.92	5.30	4.87	5.01	6.06	5.16	5.34	5.47	5.63	***5.85***	***6.15***	"Cash Flow" per sh	***6.50***
1.36	1.58	1.65	1.72	1.32	1.85	1.84	1.89	2.15	1.95	2.07	2.97	1.90	2.10	2.12	2.24	***2.40***	***2.60***	Earnings per sh [A]	***2.90***
.69	.81	1.00	1.10	1.16	1.22	1.27	1.32	1.37	1.43	1.49	1.55	1.62	1.69	1.76	1.84	***1.92***	***2.00***	Div'd Decl'd per sh [B] ■	***2.25***
4.09	3.86	3.64	4.20	4.61	5.05	5.47	6.46	6.34	6.30	6.46	6.59	5.84	6.15	6.03	6.39	***6.95***	***7.15***	Cap'l Spending per sh	***7.50***
18.30	19.17	19.71	20.30	21.06	21.61	23.84	24.53	25.69	26.41	26.99	28.87	29.31	30.14	31.15	31.83	***32.85***	***33.50***	Book Value per sh [C]	***35.00***
54.49	54.84	57.12	58.42	59.81	60.08	62.24	62.31	64.19	65.49	65.69	67.18	69.24	71.50	74.95	78.08	***79.00***	***81.00***	Common Shs Outst'g [D]	***85.00***
15.0	11.4	12.7	14.1	19.3	14.6	17.3	17.6	18.8	23.4	24.5	15.0	21.2	20.2	20.0	17.1	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	***17.0***
.90	.76	.81	.88	1.23	.82	.91	.89	.99	1.18	1.32	.80	1.09	1.09	1.16	.95			Relative P/E Ratio	***.95***
3.4%	4.5%	4.8%	4.5%	4.6%	4.5%	4.0%	4.0%	3.4%	3.1%	2.9%	3.5%	4.0%	4.0%	4.2%	4.8%			Avg Ann'l Div'd Yield	***4.5%***
1472.6	1484.8	1442.5	1445.9	1396.9	1345.6	1321.9	1438.9	1710.2	1751.6	***1700***	***1780***	Revenues ($mill)	***1995***
114.2	118.1	137.2	126.1	136.4	197.0	129.5	147.3	155.2	171.2	***190***	***210***	Net Profit ($mill)	***245***
37.6%	36.3%	36.3%	36.5%	16.0%	13.8%	5.2%	7.5%	7.5%	NMF	***15.0%***	***15.0%***	Income Tax Rate	***15.0%***
11.1%	10.1%	8.1%	7.9%	7.7%	5.5%	8.5%	7.5%	2.4%	2.1%	***5.0%***	***5.0%***	AFUDC % to Net Profit	***5.0%***
51.0%	50.0%	51.2%	47.2%	50.5%	49.4%	50.4%	47.5%	50.4%	51.2%	***51.0%***	***51.0%***	Long-Term Debt Ratio	***50.5%***
49.0%	50.0%	48.8%	52.8%	49.5%	50.6%	49.6%	52.5%	49.6%	48.8%	***49.0%***	***49.0%***	Common Equity Ratio	***49.5%***
3027.3	3060.3	3379.0	3273.2	3580.3	3834.6	4089.8	4104.7	4709.7	5091.3	***5300***	***5500***	Total Capital ($mill)	***6000***
3620.0	3898.6	4147.5	4398.8	4648.9	4797.0	4991.6	5225.5	5444.7	5700.1	***5950***	***6250***	Net Plant ($mill)	***7000***
4.9%	5.1%	5.3%	5.0%	4.8%	6.2%	4.2%	4.7%	4.6%	4.8%	***4.5%***	***5.0%***	Return on Total Cap'l	***5.0%***
7.7%	7.7%	8.3%	7.3%	7.7%	10.2%	6.4%	6.8%	6.6%	6.9%	***7.5%***	***7.5%***	Return on Shr. Equity	***8.5%***
7.7%	7.7%	8.3%	7.3%	7.7%	10.2%	6.4%	6.8%	6.6%	6.9%	***7.5%***	***7.5%***	Return on Com Equity [E]	***8.5%***
2.4%	2.3%	3.0%	1.9%	2.2%	4.9%	.9%	1.4%	1.1%	1.2%	***1.5%***	***2.0%***	Retained to Com Eq	***2.0%***
69%	70%	64%	73%	72%	52%	85%	80%	83%	82%	***80%***	***77%***	All Div'ds to Net Prof	***77%***

CAPITAL STRUCTURE as of 12/31/23
Total Debt $2621.0 mill. **Due in 5 Yrs** $40.0 mill.
LT Debt $2606.4 mill. **LT Interest** $150.0 mill.
Incl. $51.5 mill. debt to affiliated trusts; $39.9 mill. finance leases.
(LT interest earned: 2.1x)
Leases, Uncapitalized Annual rentals $10.4 mill.
Pension Assets-12/23 $589.3 mill.
Oblig $585.3 mill.
Pfd Stock None

Common Stock 78,161,596 shs.
as of 1/31/24
MARKET CAP: $2.8 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	+4.3	+3.1	-4.4
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	9.98	9.99	10.58
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	1889	1860	1809
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.4	-1.0	+1.4
Fixed Charge Cov. (%)	216	175	200

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	-2.0%	- -	*2.0%*
"Cash Flow"	3.5%	1.5%	*3.5%*
Earnings	3.0%	1.0%	*6.0%*
Dividends	4.5%	4.5%	*4.5%*
Book Value	4.0%	3.5%	*3.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	412.9	298.2	296.0	431.8	1438.9
2022	462.7	378.6	359.4	509.5	1710.2
2023	474.6	379.9	379.6	517.5	1751.6
2024	*470*	*370*	*400*	*460*	*1700*
2025	*490*	*380*	*410*	*500*	*1780*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	.98	.20	.20	.71	2.10
2022	.99	.16	d.08	1.05	2.12
2023	.73	.23	.19	1.08	2.24
2024	*.95*	*.20*	*.20*	*1.05*	*2.40*
2025	*1.00*	*.25*	*.25*	*1.10*	*2.60*

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.405	.405	.405	.405	1.62
2021	.4225	.4225	.4225	.4225	1.69
2022	.44	.44	.44	.44	1.76
2023	.46	.46	.46	.46	1.84
2024	.475				

BUSINESS: Avista Corporation (formerly The Washington Water Power Company) supplies electricity & gas in eastern Washington & northern Idaho. Supplies electricity to part of Alaska & gas to part of Oregon. Customers: 416,000 electric, 381,000 gas. Acq'd Alaska Electric Light and Power 7/14. Sold Ecova energy-management sub. 6/14. Electric rev. breakdown: residential, 36%; commercial, 29%; industrial, 9%; wholesale, 21%; other, 5%. Generating sources: gas & coal, 41%; hydro, 25%; purch., 42%. Fuel costs: 35% of revs. '23 reported depr. rate (Avista Utilities): 3.5%. Has 1,858 employees. Chairman: Scott L. Morris. Pres. & CEO: Dennis Vermillion. Inc.: WA. Address: 1411 E. Mission Ave., Spokane, WA 99202-2600. Tel.: 509-489-0500. Internet: www.avistacorp.com.

Avista Utilities, a subsidiary of Avista Corporation, has pending electric and natural gas rate cases. In January, the utility filed multiyear electric and natural gas rate cases with the Washington Utilities and Transportation Commission (WUTC). These proposed adjustments aim to increase annual base electric revenues by $77.1 million (13.0%) in December 2024 and $53.7 million (11.7%) in December 2025. For natural gas, the proposed hikes are $17.3 million (13.6%) in December 2024 and $4.6 million (3.2%) in December 2025. These rate increases are based on a 10.4% return on equity with a common equity ratio of 48.5% and a rate of return on a rate base of 7.61%. Upon approval, the new rates are anticipated to take effect in December 2024 and 2025, remaining intact until 2026. The company is also seeking changes to the Energy Recovery Mechanism (ERM), intending to shift to a 95% customer and 5% company sharing of power supply costs above or below the authorized level. The decision period by WUTC for the filing is usually 11 months.

Share profits this year and next will likely advance at a mid- to high-single-digit pace. Although Avista anticipates some weakness in the bottom line due to the adverse effects of the ERM, the overall net outlook for the year and beyond appears promising. This optimism mostly stems from the continued support of results by the improved cost recovery thanks to the 2023 general rate cases. Nevertheless, power supply costs and interest rates are still on the higher side. All told, we remain cautiously optimistic.

Ongoing capital investments should pave the way for future rate cases. Avista plans to prioritize investments aimed at enhancing and expanding its infrastructure. It also remains committed to advancing clean energy goals. To mention briefly, during rate case negotiations, utilities usually present their ongoing or completed capital projects as evidence for the need for increased revenue to cover costs. All told, these efforts should justify upcoming rate increases.

Shares of Avista have good capital appreciation potential over the next 18 months. What's more, the dividend yield (5.4%) is higher than the sector's average.

Emma Jalees *April 19, 2024*

(A) Diluted EPS. Excl. nonrec. gain (loss): '14, 9¢; '17, (16¢); gains on discont. ops.: '14, $1.17; '15, 8¢. EPS may not sum due to rounding. Next earnings report due May 1st. **(B)** Div'ds paid in mid-Mar., June, Sept. & Dec. ■ Div'd reinvest. plan avail. **(C)** Incl. deferred chgs. In '23: $973.8 mill., $12.47/sh. **(D)** In mill. **(E)** Rate base: Net orig. cost. Rate allowed on com. eq. in WA in '21: 9.4%; in ID in '21: 9.4%; in OR in '21: 9.4%; earned on avg. com. eq., '22: 7.1%. Regulatory Climate: WA, Below Avg.; ID, Above Avg.

Company's Financial Strength	B+
Stock's Price Stability	70
Price Growth Persistence	30
Earnings Predictability	70

BLACK HILLS CORP. NYSE-BKH

RECENT PRICE **54.50** | P/E RATIO **14.2** (Trailing: 13.9 Median: 18.0) | RELATIVE P/E RATIO **0.77** | DIV'D YLD **4.8%** | **VALUE LINE**

TIMELINESS 3 Raised 12/1/23
SAFETY 3 Lowered 1/19/24
TECHNICAL 4 Lowered 3/22/24
BETA 1.05 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$43-$85 $64 (15%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	85	(+55%)	*15%*
Low	55	(Nil)	*5%*

Institutional Decisions

	2Q2023	3Q2023	4Q2023
to Buy	164	162	200
to Sell	136	148	147
Hld's(000)	58479	58260	59277

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High:	55.1	62.1	53.4	64.6	72.0	68.2	82.0	87.1	72.8	80.9	74.0	56.1						
Low:	36.9	47.1	36.8	44.7	57.0	50.5	60.8	48.1	58.2	59.1	46.4	49.3						

LEGENDS
23.0 x Dividends p sh
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2027 2028 2029

% TOT. RETURN 3/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-9.4	16.9
3 yr.	-8.3	16.2
5 yr.	-12.5	71.5

Percent shares traded

© VALUE LINE PUB. LLC	27-29
Revenues per sh	*38.95*
"Cash Flow" per sh	*9.65*
Earnings per sh [A]	*4.75*
Div'd Decl'd per sh [B] ■	*3.00*
Cap'l Spending per sh	*11.25*
Book Value per sh [C]	*55.75*
Common Shs Outst'g [D]	*75.00*
Avg Ann'l P/E Ratio	*14.5*
Relative P/E Ratio	*.80*
Avg Ann'l Div'd Yield	*4.4%*
Revenues ($mill)	*2920*
Net Profit ($mill)	*355*
Income Tax Rate	*8.5%*
AFUDC % to Net Profit	*2.5%*
Long-Term Debt Ratio	*56.0%*
Common Equity Ratio	*44.0%*
Total Capital ($mill)	*9525*
Net Plant ($mill)	*9775*
Return on Total Cap'l	*5.0%*
Return on Shr. Equity	*8.5%*
Return on Com Equity [E]	*8.5%*
Retained to Com Eq	*3.0%*
All Div'ds to Net Prof	*63%*

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
	26.03	32.58	33.29	28.96	26.55	28.67	31.20	25.48	29.47	31.38	29.24	28.22	27.02	30.11	38.60	34.18	*35.70*	*36.10*
	2.95	5.41	4.88	4.01	5.59	5.93	6.25	5.67	6.28	7.15	6.61	7.02	7.41	7.41	7.85	7.76	*7.95*	*8.30*
	.18	2.32	1.66	1.01	1.97	2.61	2.89	2.83	2.63	3.38	3.47	3.53	3.73	3.74	3.97	3.91	*3.90*	*4.10*
	1.40	1.42	1.44	1.46	1.48	1.52	1.56	1.62	1.68	1.81	1.93	2.05	2.17	2.29	2.41	2.50	*2.60*	*2.70*
	8.51	8.90	12.04	10.03	7.90	7.97	8.92	8.90	8.89	6.09	7.62	13.31	12.22	10.47	9.14	8.15	*11.70*	*11.10*
	27.19	27.84	28.02	27.53	27.88	29.39	30.80	28.63	30.25	31.92	36.36	38.42	40.79	43.05	45.31	47.15	*48.80*	*50.35*
	38.64	38.97	39.27	43.92	44.21	44.50	44.67	51.19	53.38	53.54	60.00	61.48	62.79	64.74	66.10	68.20	*70.00*	*72.00*
	NMF	9.9	18.1	31.1	17.1	18.2	19.0	16.1	22.3	19.5	16.8	21.2	17.0	17.7	18.1	15.2	*Bold figures are Value Line estimates*	
	NMF	.66	1.15	1.95	1.09	1.02	1.00	.81	1.17	.98	.91	1.13	.87	.96	1.05	.85		
	4.2%	6.2%	4.8%	4.6%	4.4%	3.2%	2.8%	3.5%	2.9%	2.7%	3.3%	2.7%	3.4%	3.5%	3.4%	4.2%		
	1393.6	1304.6	1573.0	1680.3	1754.3	1734.9	1696.9	1949.1	2551.8	2331.3	*2500*	*2600*						
	128.8	128.3	140.3	186.5	192.5	214.5	232.9	236.7	258.4	262.2	*270*	*290*						
	33.7%	35.8%	25.1%	28.7%	19.2%	13.0%	12.2%	2.8%	8.5%	8.5%	*8.5%*	*8.5%*						
	2.4%	2.7%	5.3%	2.7%	1.4%	3.3%	2.5%	2.0%	2.4%	2.4%	*2.5%*	*2.5%*						
	47.9%	56.0%	66.5%	64.5%	57.5%	57.1%	57.9%	59.7%	54.6%	54.2%	*54.5%*	*55.0%*						
	52.1%	44.0%	33.5%	35.5%	42.5%	42.9%	42.1%	40.3%	45.4%	45.8%	*45.5%*	*45.0%*						
	2643.6	3332.7	4825.8	4818.4	5132.4	5502.2	6089.5	6914.0	6602.3	7016.5	*7530*	*8030*						
	3239.4	3259.1	4469.0	4541.4	4854.9	5503.2	6019.7	6449.2	6797.9	7119.3	*7650*	*8150*						
	6.1%	4.9%	4.0%	5.2%	5.0%	4.9%	5.0%	4.5%	5.1%	4.9%	*4.5%*	*4.5%*						
	9.4%	8.8%	8.7%	10.9%	8.8%	9.1%	9.1%	8.5%	8.6%	8.2%	*8.0%*	*8.0%*						
	9.4%	8.8%	8.7%	10.9%	8.8%	9.1%	9.1%	8.5%	8.6%	8.2%	*8.0%*	*8.0%*						
	4.3%	3.8%	3.3%	5.3%	3.9%	3.8%	3.8%	3.3%	3.4%	2.9%	*2.5%*	*3.0%*						
	54%	57%	62%	52%	55%	58%	58%	61%	61%	64%	*67%*	*66%*						

CAPITAL STRUCTURE as of 12/31/23
Total Debt $4401.2 mill. **Due in 5 Yrs** $1660.0 mill.
LT Debt $3801.2 mill. **LT Interest** $170.0 mill.
(Total Interest Coverage: 2.6x)
Leases, Uncapitalized Annual rentals $2.2 mill.

Pension Assets-12/22 $308.6 mill.
Oblig $348.1 mill.

Pfd Stock None

Common Stock 68,196,551 shs.
as of 1/31/24

MARKET CAP: $3.7 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	+1.5	+3.4	+1.5
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Yearend (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	1078	1107	1101
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.0	+1.0	+.9
Fixed Charge Cov. (%)	259	281	254

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	2.0%	2.5%	*2.5%*
"Cash Flow"	4.0%	3.0%	*4.0%*
Earnings	7.5%	4.0%	*3.5%*
Dividends	5.0%	6.0%	*4.0%*
Book Value	5.0%	6.5%	*3.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	633.4	372.6	380.6	562.5	1949.1
2022	823.6	474.2	462.6	791.4	2551.8
2023	921.2	411.3	407.1	591.7	2331.3
2024	*940*	*450*	*460*	*650*	*2500*
2025	*975*	*470*	*480*	*675*	*2600*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	1.54	.40	.70	1.11	3.74
2022	1.82	.52	.54	1.11	3.97
2023	1.73	.35	.67	1.17	3.91
2024	*1.70*	*.40*	*.58*	*1.22*	*3.90*
2025	*1.75*	*.40*	*.65*	*1.30*	*4.10*

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.535	.535	.535	.565	2.17
2021	.565	.565	.565	.595	2.29
2022	.595	.595	.595	.625	2.41
2023	.625	.625	.625	.625	2.50
2024	.65				

BUSINESS: Black Hills Corporation is a holding company for Black Hills Energy, which serves 222,340 electric customers in CO, SD, WY and MT, and 1.12 million gas customers in NE, IA, KS, CO, WY, and AR. Has coal mining sub. Acq'd utility ops. from Aquila 7/08; SourceGas 2/16. Discontinued gas marketing in '11; gas & oil E&P in '17. Electric rev. breakdown: residential, 34%; commercial, 39%; industrial, 24%; other, 3%. Generating sources: coal, 35%; gas, 26%; wind, 9%; purchased, 30%. Fuel costs: 38% of revs. '23 deprec. rate: 2.9%-3.5%. Has 2,874 employees. Chairman: Steven R. Mills. President & CEO: Linden R. Evans. Inc.: SD. Address: 7001 Mount Rushmore Rd., P.O. Box 1400, Rapid City, SD 57709-1400. Telephone: 605-721-1700. Internet: www.blackhillscorp.com.

Black Hills will likely post flat per-share profits this year. With the fourth-quarter financial release, management provided bottom-line targets for the year ahead. The company expects to earn $3.80-$4.00 a share in 2024. This reflects a 4% increase at the midpoint from 2023's initial in-house targeted range of $3.65-$3.85 a share. Ultimately Black Hills earned $0.16 above plan last year ($3.91 versus $3.75 at the midpoint) as a result of some one-off, non-operating items that aren't expected to repeat again.

Share dilution and regulatory lag are problematic for earnings-per-share growth. We're actually forecasting a rise in net profits this year, but because the cost of borrowing has gone up so much in recent years, it's become increasingly difficult for regulated utilities to sustain their share-earnings growth rates. On the one hand, there's no lack of capital investment projects to go after, but the payoff for company's such as Black Hills is not what it was previously. Because most utilities, including this equity, are down significantly from their highs of a few years ago, they are receiving less funds and suffering more dilution when floating equity to keep the balance sheet viable. Meanwhile, regulators are looking backwards to what borrowing costs were over the past number of years and are in turn setting authorized return on equity (ROE) levels that aren't reflective of today's market. Seeing the reality of that situation, BKH management lowered its long-term expected growth rate for earnings per share, to 4%-6% from 5%-7%, last year.

The company is filing for rate relief in key service areas. Black Hills received incremental revenue increases through the regulatory process last year. They secured an additional $13.9 million annually from the Wyoming gas jurisdiction in May. They also have a $20.2 million settlement agreement in place for Colorado gas, that's expected to gain final approval this quarter. A $44 million Arkansas gas request has been submitted and BKH is preparing to file rate cases for Iowa gas and Colorado electric shortly.

The main draw here for long-term investors is reliable dividend growth and an above-average yield.

Anthony J. Glennon *April 19, 2024*

(A) Diluted EPS. Excl. nonrec. gains/(losses): '15, ($3.54); '16, ($1.26); '17, 14¢; '18, $1.31; '19, (25¢); '20, (8¢); discont. ops.: '08, $4.12; '09, 7¢; '11, 23¢; '12, (16¢); '17, (31¢); '18, (12¢). Qtly. EPS may not sum to full year due to rounding. Next egs. report due early May. **(B)** Div'ds paid in early March, June, Sept., and Dec. ■ Div'd reinv. plan avail. **(C)** Incl. deferred chgs. and intagibles in '23: $23.64/sh. **(D)** In mill. **(E)** Rate base: Net orig. cost. Rate allowed on com. eq. in SD in '15: none specified; in CO in '17: 9.37%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	85
Price Growth Persistence	35
Earnings Predictability	100

EDISON INTERNAT'L NYSE-EIX

RECENT PRICE **70.68** | P/E RATIO **14.3** (Trailing: 14.8 / Median: 14.0) | RELATIVE P/E RATIO **0.78** | DIV'D YLD **4.5%** | **VALUE LINE**

TIMELINESS 3 Raised 3/1/24
SAFETY 3 Lowered 11/23/18
TECHNICAL 3 Lowered 3/22/24
BETA 1.00 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$55-$90 $73 (5%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	115	(+65%)	*16%*
Low	75	(+5%)	*6%*

Institutional Decisions

	2Q2023	3Q2023	4Q2023
to Buy	369	361	356
to Sell	304	299	362
Hld's(000)	340122	336919	342030

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
High:	54.2	68.7	69.6	78.7	83.4	71.0	76.4	78.9	68.6	73.3	74.9	73.3								
Low:	44.3	44.7	55.2	58.0	62.7	45.5	53.4	43.6	53.9	54.4	58.8	63.2								
	43.31	37.98	38.09	39.16	36.41	38.61	41.17	35.37	36.43	37.81	38.85	34.11	35.83	39.18	45.05	42.56	***44.95***	***47.40***	Revenues per sh	***53.85***
	8.08	7.96	8.41	9.03	9.63	8.80	9.95	10.35	10.43	11.03	4.69	9.39	9.80	10.59	11.51	11.80	***12.85***	***13.60***	"Cash Flow" per sh	***15.00***
	3.68	3.24	3.35	3.23	4.55	3.78	4.33	4.15	3.94	4.51	d1.26	4.70	4.52	4.59	4.63	4.76	***4.95***	***5.50***	Earnings per sh [A]	***6.55***
	1.23	1.25	1.27	1.29	1.31	1.37	1.48	1.73	1.98	2.23	2.43	2.48	2.58	2.69	2.84	2.99	***3.14***	***3.29***	Div'd Decl'd per sh [B] ■	***3.86***
	8.67	10.07	13.94	14.76	12.73	11.05	11.99	12.97	11.46	11.75	13.84	13.47	14.47	14.47	15.12	14.19	***15.75***	***16.25***	Cap'l Spending per sh	***17.00***
	29.21	30.20	32.44	30.86	28.95	30.50	33.64	34.89	36.82	35.82	32.10	36.75	37.08	36.57	35.70	36.02	***38.00***	***40.40***	Book Value per sh [C]	***48.25***
	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	361.99	378.91	380.38	382.21	383.93	***386.00***	***388.00***	Common Shs Outst'g [D]	***390.00***
	12.4	9.7	10.3	11.8	9.7	12.7	13.0	14.8	17.9	17.2	- -	14.1	13.3	12.9	14.0	14.4	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	***14.5***
	.75	.65	.66	.74	.62	.71	.68	.75	.94	.87	- -	.75	.68	.70	.81	.80			Relative P/E Ratio	***.80***
	2.7%	4.0%	3.7%	3.4%	3.0%	2.8%	2.6%	2.8%	2.8%	2.9%	3.8%	3.7%	4.3%	4.5%	4.4%	4.4%			Avg Ann'l Div'd Yield	***4.1%***
	13413	11524	11869	12320	12657	12347	13578	14905	17220	16338	***17350***	***18400***	Revenues ($mill)	***21000***
	1539.0	1480.0	1422.0	1603.0	d290.0	1716.0	1818.0	1907.0	1977.0	2035.0	***2120***	***2345***	Net Profit ($mill)	***2770***
	22.4%	6.6%	11.1%	5.0%	- -	1.2%	5.0%	18.0%	12.5%	14.9%	***13.0%***	***13.0%***	Income Tax Rate	***13.0%***
	5.8%	8.0%	6.8%	7.2%	- -	9.6%	9.6%	8.8%	9.6%	11.4%	***11.0%***	***10.5%***	AFUDC % to Net Profit	***10.0%***
	44.1%	45.0%	41.8%	45.6%	53.6%	53.5%	55.2%	57.6%	60.7%	62.8%	***64.0%***	***64.0%***	Long-Term Debt Ratio	***65.0%***
	47.2%	46.7%	49.2%	45.8%	38.3%	39.9%	39.5%	33.2%	30.6%	28.7%	***28.0%***	***28.5%***	Common Equity Ratio	***28.5%***
	23216	24352	24362	25506	27284	33360	35581	41959	44547	48260	***52150***	***55350***	Total Capital ($mill)	***65650***
	32981	35085	37000	39050	41348	44285	47839	50700	53486	56084	***59100***	***62250***	Net Plant ($mill)	***72200***
	7.7%	7.1%	6.9%	7.3%	.1%	6.4%	6.3%	5.6%	5.7%	5.8%	***5.0%***	***5.5%***	Return on Total Cap'l	***5.5%***
	11.9%	11.1%	10.0%	11.6%	NMF	11.1%	11.4%	10.7%	11.3%	11.3%	***11.5%***	***12.0%***	Return on Shr. Equity	***12.0%***
	13.0%	12.0%	10.8%	12.7%	NMF	12.0%	12.0%	12.5%	12.9%	13.1%	***13.0%***	***13.5%***	Return on Com Equity [E]	***13.5%***
	8.8%	7.2%	5.6%	6.6%	NMF	5.9%	5.4%	5.4%	5.2%	5.0%	***5.0%***	***5.5%***	Retained to Com Eq	***5.5%***
	37%	44%	53%	52%	NMF	54%	58%	61%	64%	66%	***67%***	***63%***	All Div'ds to Net Prof	***62%***

CAPITAL STRUCTURE as of 12/31/23
Total Debt $34090 mill. **Due in 5 Yrs** $10489 mill.
LT Debt $30316 mill. **LT Interest** $1565 mill.
(Total Interest Coverage: 2.4x)
Leases, Uncapitalized Annual rentals $166 mill.

Pension Assets-12/22 $3609 mill.
Oblig $3647 mill.

Pfd Stock $4116 mill. **Pfd Div'd** $225 mill.

Common Stock 384,524,276 shs.
as of 2/15/24
MARKET CAP: $27.2 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	-3.9	+.9	-6.3
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	21190	24345	21254
Annual Load Factor (%)	52.7	45.8	49.7
% Change Customers (yr-end)	+.3	+.8	+.7
Fixed Charge Cov. (%)	113	135	166

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	1.0%	2.5%	*4.0%*
"Cash Flow"	2.0%	5.5%	*5.0%*
Earnings	2.0%	14.0%	*6.0%*
Dividends	8.0%	5.0%	*5.5%*
Book Value	2.0%	0.5%	*5.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	2960	3315	5299	3331	14905
2022	3968	4008	5228	4016	17220
2023	3966	3964	4702	3706	16338
2024	*4250*	*4300*	*4950*	*3850*	*17350*
2025	*4500*	*4550*	*5250*	*4100*	*18400*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	.79	.94	1.69	1.16	4.59
2022	1.07	.94	1.48	1.15	4.63
2023	1.09	1.01	1.38	1.28	4.76
2024	*1.15*	*1.05*	*1.45*	*1.30*	*4.95*
2025	*1.30*	*1.15*	*1.60*	*1.45*	*5.50*

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.6375	.6375	.6375	.6375	2.55
2021	.6625	.6625	.6625	.6625	2.65
2022	.70	.70	.70	.70	2.80
2023	.7375	.7375	.7375	.7375	2.95
2024	.78				

BUSINESS: Edison International is a holding company for Southern California Edison Company (SoCal Edison), which supplies electricity to 5.28 mill. customers in a 50,000-sq.-mi. area in central, coastal, & southern CA (excl. Los Angeles & San Diego). Edison Energy is an energy svcs. co. Disc. Edison Mission Energy (independent power producer) in '12. Elec. rev. breakdown: residential, 40%; commercial, 43%; industrial, 3%; other, 14%. Generating sources: nuclear, 9%; gas, 5%; hydroelectric, 6%; purchased, 80%. Power costs: 34% of revs. '23 reported depr. rate: 4.1%. Employs 14,316. Board Chair: Peter J. Taylor. President & CEO: Pedro J. Pizzaro. Inc.: CA. Address: 2244 Walnut Grove Ave., P.O. Box 976, Rosemead, CA 91770. Tel.: 626-302-2222. Web: www.edison.com.

Edison International should see decent earnings gains in 2024. This year's weather comparisons are not particularly difficult. And, the utility ought to continue to prosper from the escalation mechanism set forth in the 2021 General Rate Case (GRC) decision that allows it to bill for certain types of expenses, alleviating regulatory lag to a large degree. Load growth in California is healthy, at about 3% due to trends in electrification for vehicles and heavy equipment. This leads to plenty of transmission and distribution work that pays off rapidly in terms of return on investment for regulated utilities in California. Fire mitigation work also keeps the rate base growing. Edison's current authorized return on equity (ROE) is 10.3%, which is fairly generous relative to the rates that peers have been receiving in other states. That said, the company may get a further lift next year in that regard.

Edison has a general rate case decision coming its way in 2025. State peer, PG&E, received favorable terms from the California Public Utilities Commission, with a recent boost to its authorized ROE to 10.7% without too much public backlash. There's a reasonable chance that Edison will get a lift in its investment returns, as well. As such, we're projecting a 6% gain in earning per share next year.

Wildfire headline risk comes with the territory here. In October, Orange County filed a lawsuit alleging EIX's equipment caused forest fires in 2020 and 2022. Dollar amounts sought weren't given. In February, the company agreed to pay an $80 million settlement to the federal government for forestland burned in the 2017 Thomson fire. In recent years, EIX has paid out billions of dollars in lawsuit settlements associated with the role its power lines played in 2017 and 2018 forest fires. Notably, management recently said the settlement payout process has nearly run its course. The company also believes it has reduced its risk of causing a blaze by 88% as a result of its ongoing mitigation work.

This neutrally ranked equity (Timeliness: 3, Average) doesn't stand out from the crowd at the recent quotation. On a total-return basis, EIX is right at the utility industry median.

Anthony J. Glennon *April 19, 2024*

(A) Adjusted (non-GAAP) EPS from 2019 on. Excl. gains/(losses): nonrecur's ; '10, 54¢; '11, ($3.33); '13, ($1.12); '15, ($1.18); '17, ($1.37); '18, (14¢); '19, (92¢); '20, ($2.54); '21, ($2.59); '22, ($3.02); '23, ($1.34); disc. ops.: '13, 11¢; '14, 57¢; '15, 11¢; '18, 10¢. Qtly. EPS may not sum to full yr. due to rounding. Next egs. report due early May. **(B)** Div'ds paid late Jan., Apr., July, & Oct. ■ Div'd reinv. plan avail. **(C)** Incl. def'd chgs. In '23: $4.36/sh. **(D)** In mill. **(E)** Rate base: net orig. cost. Rate all'd on com. eq. in '20: 10.3%; Regulatory Climate: Avg.

Company's Financial Strength	B++
Stock's Price Stability	85
Price Growth Persistence	25
Earnings Predictability	10

IDACORP, INC. NYSE-IDA

RECENT PRICE **93.19** | P/E RATIO **18.1** (Trailing: 18.1 Median: 20.0) | RELATIVE P/E RATIO **0.98** | DIV'D YLD **3.6%** | **VALUE LINE**

TIMELINESS 5 Lowered 3/1/24
SAFETY 1 Raised 4/19/24
TECHNICAL 5 Lowered 3/29/24
BETA .85 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$78-$132 $105 (15%)

2027-29 PROJECTIONS

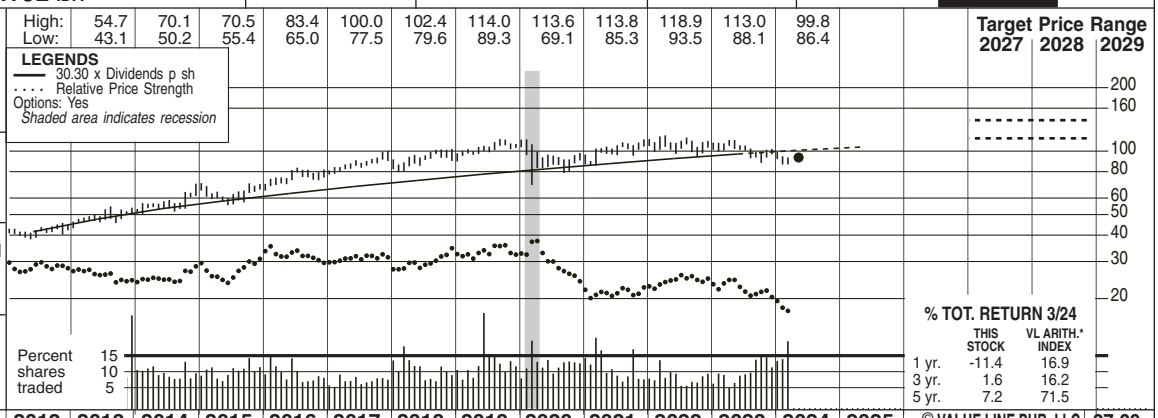
	Price	Gain	Ann'l Total Return
High	140	(+50%)	*14%*
Low	115	(+25%)	*9%*

Institutional Decisions

	2Q2023	3Q2023	4Q2023
to Buy	168	160	192
to Sell	170	177	168
Hld's(000)	42011	43079	45178

	2008	2009	2010	2011	2012	2013
High:	54.7	70.1	70.5	83.4	100.0	102.4
Low:	43.1	50.2	55.4	65.0	77.5	79.6

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High:	114.0	113.6	113.8	118.9	113.0	99.8						
Low:	89.3	69.1	85.3	93.5	88.1	86.4						



% TOT. RETURN 3/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-11.4	16.9
3 yr.	1.6	16.2
5 yr.	7.2	71.5

© VALUE LINE PUB. LLC

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025		27-29
	20.47	21.92	20.97	20.55	21.55	24.81	25.51	25.23	25.04	26.76	27.19	26.70	26.77	28.86	32.51	34.90	***34.30***	***35.90***	Revenues per sh	***39.60***
	4.27	5.07	5.35	5.84	5.93	6.29	6.58	6.70	6.86	7.50	7.85	8.07	8.19	8.41	8.55	9.11	***9.50***	***10.10***	"Cash Flow" per sh	***11.40***
	2.18	2.64	2.95	3.36	3.37	3.64	3.85	3.87	3.94	4.21	4.49	4.61	4.69	4.85	5.11	5.14	***5.40***	***5.75***	Earnings per sh [A]	***6.65***
	1.20	1.20	1.20	1.20	1.37	1.57	1.76	1.92	2.08	2.24	2.40	2.56	2.72	2.88	3.04	3.20	***3.34***	***3.46***	Div'd Decl'd per sh [B] ■ †	***4.25***
	5.19	5.26	6.85	6.76	4.78	4.68	5.45	5.84	5.89	5.66	5.51	5.53	6.16	5.94	8.56	12.07	***17.00***	***14.00***	Cap'l Spending per sh	***12.00***
	27.76	29.17	31.01	33.19	35.07	36.84	38.85	40.88	42.74	44.65	47.01	48.88	50.73	52.82	55.52	57.44	***59.30***	***63.10***	Book Value per sh [C]	***69.80***
	46.92	47.90	49.41	49.95	50.16	50.23	50.27	50.34	50.40	50.42	50.42	50.42	50.46	50.52	50.56	50.62	***51.00***	***51.50***	Common Shs Outst'g [D]	***53.00***
	13.9	10.2	11.8	11.5	12.4	13.4	14.7	16.2	19.1	20.6	20.5	22.3	19.9	20.8	21.0	19.9			Avg Ann'l P/E Ratio	***19.0***
	.84	.68	.75	.72	.79	.75	.77	.82	1.00	1.04	1.11	1.19	1.02	1.12	1.21	1.11			Relative P/E Ratio	***1.05***
	4.0%	4.5%	3.4%	3.1%	3.3%	3.2%	3.1%	3.1%	2.8%	2.6%	2.6%	2.5%	2.9%	2.9%	2.8%	3.1%			Avg Ann'l Div'd Yield	***3.3%***
							1282.5	1270.3	1262.0	1349.5	1370.8	1346.4	1350.7	1458.1	1644.0	1766.4	***1750***	***1850***	Revenues ($mill)	***2100***
							193.5	194.7	198.3	212.4	226.8	232.9	237.4	245.6	259.0	261.2	***275***	***295***	Net Profit ($mill)	***355***
							8.0%	19.0%	15.5%	18.6%	7.1%	9.5%	10.8%	13.1%	12.7%	9.4%	***13.0%***	***13.0%***	Income Tax Rate	***13.0%***
							13.6%	16.3%	16.3%	13.9%	15.2%	16.2%	17.3%	17.7%	19.8%	8.8%	***15.0%***	***15.0%***	AFUDC % to Net Profit	***16.0%***
							45.3%	45.6%	44.8%	43.7%	43.6%	41.3%	43.9%	42.8%	43.9%	48.8%	***49.0%***	***49.5%***	Long-Term Debt Ratio	***49.5%***
							54.7%	54.4%	55.2%	56.3%	56.4%	58.7%	56.1%	57.2%	56.1%	51.2%	***51.0%***	***50.5%***	Common Equity Ratio	***50.5%***
							3567.6	3783.3	3898.5	3997.5	4205.1	4201.3	4560.4	4669.1	5001.4	5683.4	***6000***	***6325***	Total Capital ($mill)	***7300***
							3833.5	3992.4	4172.0	4283.9	4395.7	4531.5	4709.5	4901.8	5173.0	5745.2	***6100***	***6425***	Net Plant ($mill)	***7400***
							6.6%	6.2%	6.1%	6.3%	6.4%	6.5%	6.1%	6.2%	6.1%	5.4%	***5.5%***	***6.0%***	Return on Total Cap'l	***6.0%***
							9.9%	9.5%	9.2%	9.4%	9.6%	9.4%	9.3%	9.2%	9.2%	9.0%	***9.0%***	***9.0%***	Return on Shr. Equity	***9.0%***
							9.9%	9.5%	9.2%	9.4%	9.6%	9.4%	9.3%	9.2%	9.2%	9.0%	***9.0%***	***9.0%***	Return on Com Equity [E]	***9.0%***
							5.4%	4.8%	4.3%	4.4%	4.4%	4.2%	3.9%	3.7%	3.7%	3.4%	***3.5%***	***3.5%***	Retained to Com Eq	***3.5%***
							46%	50%	53%	53%	54%	56%	58%	60%	60%	63%	***62%***	***60%***	All Div'ds to Net Prof	***64%***

Bold figures are Value Line estimates

CAPITAL STRUCTURE as of 12/31/23
Total Debt $2825.6 mill. **Due in 5 Yrs** $186.0 mill.
LT Debt $2775.8 mill. **LT Interest** $96.4 mill.
(Total Interest Coverage: 2.6x)

Pension Assets-12/23 $917.5 mill.
Oblig $1028.0 mill.

Pfd Stock None

Common Stock 50,628,079 shs.
as of 2/9/24

MARKET CAP: $4.7 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	+3.9	+9.6	+7.3
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	3751	3568	3615
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+2.8	+2.4	+2.4
Fixed Charge Cov. (%)	390	395	315

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	3.5%	4.0%	*3.5%*
"Cash Flow"	3.5%	3.5%	*4.5%*
Earnings	4.0%	3.5%	*5.0%*
Dividends	8.0%	6.5%	*5.5%*
Book Value	4.5%	4.5%	*4.0%*

QUARTERLY REVENUES($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	316.1	360.1	446.9	335.0	1458.1
2022	344.3	358.7	518.0	422.9	1644.0
2023	429.7	413.8	510.9	412.0	1766.4
2024	***365***	***415***	***560***	***410***	***1750***
2025	***390***	***440***	***585***	***435***	***1850***

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	.89	1.38	1.93	.65	4.85
2022	.91	1.27	2.10	.83	5.11
2023	1.11	1.35	2.07	.61	5.14
2024	***1.10***	***1.35***	***2.10***	***.85***	***5.40***
2025	***1.15***	***1.45***	***2.25***	***.90***	***5.75***

QUARTERLY DIVIDENDS PAID [B] ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.67	.67	.67	.71	2.72
2021	.71	.71	.71	.75	2.88
2022	.75	.75	.75	.79	3.04
2023	.79	.79	.79	.83	3.20
2024	.83				

BUSINESS: IDACORP, Inc. is a holding company for Idaho Power Company, a regulated electric utility that serves 633,000 customers throughout a 24,000-square-mile area in southern Idaho and eastern Oregon (population: 1.4 million). Most of the company's revenues are derived from the Idaho portion of its service area. Revenue breakdown: residential, 39%; commercial, 21%; industrial, 14%; irrigation, 10%; other, 16%. Generating sources: hydro, 35%; coal, 13%; gas, 15%; purchased, 37%. Fuel costs: 40% of revenues. '23 reported depreciation rate: 3.1%. Has 2,112 employees. Chairman: Richard J. Dahl. President & CEO: Lisa Grow. Incorporated: Idaho. Address: 1221 W. Idaho St., Boise, Idaho 83702. Telephone: 208-388-2200. Internet: www.idacorpinc.com.

IDACORP's management has set its earnings target for 2024 in a range of $5.25 to $5.45 a share. The company extended its streak of 15 years when it comes to annual earnings growth in 2023, but not by a whole lot. Our 2024 estimate is being placed at $5.40, which assumes a 5% annual gain, which is in line with the company's in-house goal. Most utilities strive for something in the 4%-6% or 5%-7% spread. Digging deeper, our estimate assumes Idaho Power will use between $35 million and $60 million of additional tax credits available under its regulatory mechanism. A good portion of this figure is tied to battery storage projects approved by the Idaho Public Utilities Commission in the general rate case last December.

A rate case in Oregon is now on the table. IDACORP has filed with the Oregon Public Utilities Commission for a rate increase to go into effect in October of this year. The company is requesting an ROE of 10.4%, and a 7.8% rate of return with a capital structure comprised of 51% equity and 49% debt. Infrastructure investments have been made in this service area and the last general rate case was filed in 2011. Since then, there has been an 8% increase in the number of customers. We expect the parties to mutually agree on a pact that is fair to both IDA and its constituents.

Capital expenditures are expected to peak this year at above $900 million. New capacity resources are pushing the spending up, but management has cast a wide net ($20 million to $200 million), so the total could be somewhat lower. Still, the average over the next five years is apt to come in around the $800 million threshold. Distribution and transmission will be areas of heavy outlays, as will high voltage transmission, one of the driving forces behind IDA's heavier spending coming off an average of about $400 million in the previous five-year window.

These untimely shares lack real investment appeal at this juncture. Even with the quotation down 7% in value since our January review, capital appreciation potential three to five years out is below average. Yes, the yield is handsomely above the *Value Line* median, but does not stand out for a utility.

Erik M. Manning *April 19, 2024*

(A) Diluted EPS. Earnings may not sum due to rounding. Next earnings report due early May. **(B)** Dividends historically paid in late February, May, August, and November. ■ Dividend reinvestment plan available. † Shareholder investment plan available. **(C)** Incl. intangibles. In '23: $882.7 mill., $17.44/sh. **(D)** In millions. **(E)** Rate base: Net original cost. Rate allowed on common equity in '12: 10% (imputed); Regulatory Climate: Above Average.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	60
Earnings Predictability	100

NORTHWESTERN NDQ-NWE

RECENT PRICE **50.25** | P/E RATIO **13.7** (Trailing: 15.6 Median: 17.0) | RELATIVE P/E RATIO **0.74** | DIV'D YLD **5.2%** | **VALUE LINE**

TIMELINESS 2 Raised 4/12/24
SAFETY 3 Lowered 1/19/24
TECHNICAL 5 Lowered 4/12/24
BETA .95 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$41-$70 $56 (10%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(+50%)	*14%*
Low	50	(Nil)	*5%*

Institutional Decisions

	2Q2023	3Q2023	4Q2023
to Buy	157	123	144
to Sell	113	151	130
Hld's(000)	58238	59029	59945

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High:	47.2	58.7	59.7	63.8	64.5	65.7	76.7	80.5	70.8	63.1	61.2	51.8							
Low:	35.1	42.6	48.4	52.2	55.7	50.0	57.3	45.1	53.2	48.7	46.0	46.2							

LEGENDS
22.2 x Dividends p sh
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2027 2028 2029
128 96 80 64 48 40 32 24 16 12

Percent shares traded 30 20 10

% TOT. RETURN 3/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-7.6	16.9
3 yr.	-10.6	16.2
5 yr.	-10.6	71.5

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	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
	35.09	31.72	30.66	30.80	28.76	29.80	25.68	25.21	26.01	26.45	23.81	24.93	23.70	25.38	24.74	23.22	***25.60***	***26.60***	Revenues per sh	***28.90***
	4.40	4.62	4.76	5.42	5.18	5.45	5.39	5.92	6.74	6.76	6.96	7.07	6.86	6.92	6.46	6.69	***7.10***	***7.45***	"Cash Flow" per sh	***8.55***
	1.77	2.02	2.14	2.53	2.26	2.46	2.99	2.90	3.39	3.34	3.40	3.53	3.21	3.50	3.29	3.22	***3.50***	***3.70***	Earnings per sh [A]	***4.25***
	1.32	1.34	1.36	1.44	1.48	1.52	1.60	1.92	2.00	2.10	2.20	2.30	2.40	2.48	2.52	2.56	***2.60***	***2.64***	Div'd Decl'd per sh [B] ■ †	***2.76***
	3.47	5.26	6.30	5.20	5.89	5.95	5.76	5.89	5.96	5.60	5.64	6.26	8.02	8.03	8.62	9.26	***8.15***	***8.15***	Cap'l Spending per sh	***8.25***
	21.25	21.86	22.64	23.68	25.09	26.60	31.50	33.22	34.68	36.44	38.60	40.42	41.10	43.28	44.61	45.48	***46.40***	***47.50***	Book Value per sh [C]	***51.85***
	35.93	36.00	36.23	36.28	37.22	38.75	46.91	48.17	48.33	49.37	50.32	50.45	50.59	54.06	59.74	61.25	***61.50***	***62.00***	Common Shs Outst'g [D]	***64.00***
	13.9	11.5	12.9	12.6	15.7	16.9	16.2	18.4	17.2	17.8	16.8	19.9	18.6	17.4	17.3	17.0	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	***14.5***
	.84	.77	.82	.79	1.00	.95	.85	.93	.90	.90	.91	1.06	.96	.94	1.00	.95			Relative P/E Ratio	***.80***
	5.4%	5.7%	4.9%	4.5%	4.2%	3.7%	3.3%	3.6%	3.4%	3.5%	3.9%	3.3%	4.0%	4.1%	4.4%	4.7%			Avg Ann'l Div'd Yield	***4.5%***
	1204.9	1214.3	1257.2	1305.7	1198.1	1257.9	1198.7	1372.3	1477.8	1422.1	***1575***	***1650***	Revenues ($mill)	***1850***
	120.7	138.4	164.2	162.7	171.1	179.3	162.6	181.6	185.5	194.1	***215***	***230***	Net Profit ($mill)	***270***
	--	13.7%	--	7.6%	--	1.6%	--	.9%	.9%	3.7%	***6.0%***	***9.0%***	Income Tax Rate	***12.0%***
	8.9%	9.8%	4.3%	5.2%	3.4%	4.6%	6.0%	14.9%	18.5%	21.6%	***20.0%***	***20.0%***	AFUDC % to Net Profit	***20.0%***
	53.4%	53.1%	52.0%	50.2%	52.2%	52.5%	52.8%	52.2%	48.2%	49.1%	***50.0%***	***51.0%***	Long-Term Debt Ratio	***50.5%***
	46.6%	46.9%	48.0%	49.8%	47.8%	47.5%	47.2%	47.8%	51.8%	50.9%	***50.0%***	***49.0%***	Common Equity Ratio	***49.5%***
	3168.0	3408.6	3493.9	3614.5	4064.6	4289.8	4409.1	4893.1	5148.3	5475.4	***5725***	***5975***	Total Capital ($mill)	***6700***
	3758.0	4059.5	4214.9	4358.3	4521.3	4700.9	4952.9	5247.2	5657.5	6039.8	***6300***	***6600***	Net Plant ($mill)	***7300***
	4.8%	5.2%	5.9%	5.6%	5.2%	5.2%	4.6%	4.6%	4.5%	4.5%	***4.5%***	***5.0%***	Return on Total Cap'l	***5.0%***
	8.2%	8.6%	9.8%	9.0%	8.8%	8.8%	7.8%	7.8%	7.0%	7.0%	***7.5%***	***8.0%***	Return on Shr. Equity	***8.0%***
	8.2%	8.6%	9.8%	9.0%	8.8%	8.8%	7.8%	7.8%	7.0%	7.0%	***7.5%***	***8.0%***	Return on Com Equity [E]	***8.0%***
	3.8%	3.0%	4.1%	3.4%	3.2%	3.1%	2.0%	2.3%	1.7%	1.4%	***2.0%***	***2.5%***	Retained to Com Eq	***3.0%***
	54%	65%	58%	62%	64%	64%	74%	71%	76%	79%	***74%***	***71%***	All Div'ds to Net Prof	***65%***

CAPITAL STRUCTURE as of 12/31/23
Total Debt $2820.8 mill. **Due in 5 Yrs** $1011.5 mill.
LT Debt $2690.5 mill. **LT Interest** $109.0 mill.
Incl. $5.5 mill. finance leases.
(Total Interest Coverage: 2.4x)

Pension Assets-12/23 $402.7 mill.
Oblig $477.0 mill.

Pfd Stock None

Common Stock 61,256,549 shs.
as of 2/9/24

MARKET CAP: $3.1 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	+.7	+3.7	-.3
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Winter (Mw)	2000	2073	1992
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.6	+1.5	+1.6
Fixed Charge Cov. (%)	245	219	216

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	-2.0%	-1.0%	*2.5%*
"Cash Flow"	2.5%	-.5%	*3.5%*
Earnings	3.5%	--	*4.0%*
Dividends	5.5%	3.5%	*2.0%*
Book Value	6.0%	4.0%	*3.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	400.8	298.2	326.0	347.3	1372.3
2022	394.5	323.0	335.1	425.2	1477.8
2023	454.5	290.5	321.1	356.0	1422.1
2024	***475***	***325***	***370***	***405***	***1575***
2025	***500***	***340***	***385***	***425***	***1650***

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	1.24	.59	.70	.97	3.50
2022	1.08	.58	.47	1.16	3.29
2023	1.10	.32	.48	1.32	3.22
2024	***1.25***	***.50***	***.60***	***1.15***	***3.50***
2025	***1.30***	***.55***	***.65***	***1.20***	***3.70***

QUARTERLY DIVIDENDS PAID [B] ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.60	.60	.60	.60	2.40
2021	.62	.62	.62	.62	2.48
2022	.63	.63	.63	.63	2.52
2023	.64	.64	.64	.64	2.56
2024	.65				

BUSINESS: NorthWestern Energy Group, Inc. supplies electricity & gas in the Upper Midwest and Northwest, serving 467,700 electric customers in Montana and South Dakota and 307,600 gas customers in Montana, South Dakota, and Nebraska. Electric revenue breakdown for 2023: residential, 44%; commercial, 50%; industrial, 4%; and other, 2%. Generating sources: coal, 18%; hydro, 37%; wind, 4%; natural gas, 12%; purchased power, 29%. Fuel costs: 30% of revenues. 2023 reported depreciation rate: 2.8%. Had 1,573 employees as of 12/31/23. Chair of the board of directors: Dana J. Dykhouse. President and CEO: Brian B. Bird. Incorporated: DE. Address: 3010 West 69th Street, Sioux Falls, SD 57108. Telephone: 605-978-2900. Internet: www.northwesternenergy.com.

NorthWestern Energy's profits should be on the rise this year from higher electric and natural gas delivery rates. In October, Montana regulators approved the settlement agreement the utility had negotiated with key members of the state's business community. The new prices lift annual electric and natural gas revenues by $67.4 million and $14.1 million, respectively. Those levels are based on an authorized return on equity (ROE) of 9.65% for electric and 9.55% for gas. The utility also received pricing mechanisms that allow for the expedient pass through of changes in both fuel/purchased power costs and property taxes. Those will reduce regulatory lag. In January, South Dakota officials came to terms with the company on electric rates that will raise annual revenue by $21.5 million based on a 6.81% rate of return. Management is targeting a range of $3.42 to $3.62 for 2024 earnings per share. The company raised the quarterly dividend to an annualized rate of $2.60 a share from $2.56.

Leadership affirmed its 4% to 6% annual earnings growth expectation. It provided an updated five-year capital investment plan that calls for average expenditures of $500 million per year from 2024 through 2028. The $2.5 billion total investment should grow the company's rate base (the dollar value of assets for which a utility is allowed to earn a regulated return on) by about 4% to 6% per annum. That, in turn, should translate to 4% to 6% yearly earnings-per-share gains. The fairly conservative plan assumes no equity needs are necessary unless there are opportunities to expand generation build beyond the $143 million budgeted for that category. We're projecting there will be some on both fronts. The plan also calls for $1.8 billion to be spent on the expansion and modernization of electric and gas transmission and distribution systems across its territories, with the remainder on infrastructure maintenance.

This equity is timely. Longer term, however, it doesn't really stand out relative to its peer group on an annual total-return basis. This is partially because it's growth prospects are about average and dividend hikes will likely remain limited until the payout ratio returns to the mid-60% area.

Anthony J. Glennon *April 19, 2024*

(A) Diluted egs. Excl. nonrec. gains/(losses): '12, 40¢; '15, 27¢; '18, 52¢; '19, 45¢; '20, (15¢); '21, 10¢; '22, (4¢). Qtly EPS may not sum to full yr. due to rounding. Next egs. report due early May. **(B)** Div'ds paid late Mar., June, Sept. & Dec. ■ Div'd reinvest. plan avail. † Shrhldr. invest. plan avail. **(C)** Incl. def'd charges and intag. '23: $17.90/sh. **(D)** In mill. **(E)** Rate base: Net orig. cost. Rate allowed on com. eq. in MT in '22 (elec.): 9.65%; in '22 (gas): 9.55%; in SD in '24: 6.81%; in NE in '07: 10.4%. Reg. Climate: Below Avg.

Company's Financial Strength	B+
Stock's Price Stability	90
Price Growth Persistence	25
Earnings Predictability	95

PINNACLE WEST NYSE-PNW

RECENT PRICE **74.08** | P/E RATIO **15.8** (Trailing: 16.8 Median: 17.0) | RELATIVE P/E RATIO **0.86** | DIV'D YLD **4.8%** | **VALUE LINE**

TIMELINESS 4 Lowered 3/22/24
SAFETY 3 Lowered 1/19/24
TECHNICAL 5 Lowered 3/22/24
BETA .95 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$59-$97 $78 (5%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	115	(+55%)	*15%*
Low	75	(Nil)	*5%*

Institutional Decisions

	2Q2023	3Q2023	4Q2023
to Buy	201	225	240
to Sell	237	250	253
Hld's(000)	97185	97254	97685

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High:	61.9	71.1	73.3	82.8	92.5	92.6	99.8	105.5	88.5	80.6	86.0	75.2						
Low:	51.5	51.2	56.0	62.5	75.8	73.4	81.6	60.1	62.8	59.0	68.6	65.2						

LEGENDS
25.6 x Dividends p sh
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2027 2028 2029

% TOT. RETURN 3/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-1.3	16.9
3 yr.	5.5	16.2
5 yr.	-4.2	71.5

Percent shares traded

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
	33.37	32.50	30.01	29.67	30.09	31.35	31.58	31.50	31.42	31.90	32.93	30.87	31.81	33.66	38.21	41.40	*41.70*	*42.45*	Revenues per sh	*46.00*
	8.13	8.08	6.85	7.52	7.92	8.15	8.09	9.09	9.39	9.92	10.37	10.69	10.97	11.84	11.50	11.95	*12.50*	*13.10*	"Cash Flow" per sh	*15.35*
	2.12	2.26	3.08	2.99	3.50	3.66	3.58	3.92	3.95	4.43	4.54	4.77	4.87	5.47	4.26	4.41	*4.70*	*5.00*	Earnings per sh [A]	*6.00*
	2.10	2.10	2.10	2.10	2.67	2.23	2.33	2.44	2.56	2.70	2.87	3.04	3.23	3.36	3.43	3.49	*3.55*	*3.61*	Div'd Decl'd per sh [B] ■	*3.79*
	9.46	7.64	7.03	8.26	8.24	9.36	8.38	9.84	11.64	12.80	10.73	10.76	11.93	13.04	15.09	16.28	*16.80*	*16.80*	Cap'l Spending per sh	*17.20*
	34.16	32.69	33.86	34.98	36.20	38.07	39.50	41.30	43.15	44.80	46.59	48.30	49.96	52.26	53.45	54.47	*59.85*	*60.55*	Book Value per sh [C]	*70.15*
	100.89	101.43	108.77	109.25	109.74	110.18	110.57	110.98	111.34	111.75	112.10	112.44	112.76	113.01	113.17	113.42	*116.00*	*119.00*	Common Shs Outst'g [D]	*125.00*
	16.1	13.7	12.6	14.6	14.3	15.3	15.9	16.0	18.7	19.3	17.8	19.4	16.7	14.1	17.1	17.4	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*16.0*
	.97	.91	.80	.92	.91	.86	.84	.81	.98	.97	.96	1.03	.86	.76	.99	.97			Relative P/E Ratio	*.90*
	6.2%	6.8%	5.4%	4.8%	5.3%	4.0%	4.1%	3.9%	3.5%	3.2%	3.5%	3.3%	4.0%	4.3%	4.7%	4.5%			Avg Ann'l Div'd Yield	*3.9%*
	3491.6	3495.4	3498.7	3565.3	3691.2	3471.2	3587.0	3803.8	4324.4	4696.0	*4840*	*5050*	Revenues ($mill)	*5750*
	397.6	437.3	442.0	497.8	511.0	538.3	550.6	618.7	483.6	501.6	*540*	*590*	Net Profit ($mill)	*750*
	34.2%	34.3%	33.9%	32.5%	20.2%	- -	12.1%	14.8%	13.0%	12.9%	*14.0%*	*14.0%*	Income Tax Rate	*14.0%*
	11.6%	11.8%	14.1%	13.9%	15.2%	9.3%	9.5%	10.1%	15.2%	19.3%	*19.0%*	*19.0%*	AFUDC % to Net Profit	*19.0%*
	41.0%	43.0%	45.6%	48.9%	47.0%	47.1%	52.8%	53.9%	56.1%	55.0%	*52.5%*	*54.0%*	Long-Term Debt Ratio	*52.0%*
	59.0%	57.0%	54.4%	51.1%	53.0%	52.9%	47.2%	46.1%	43.9%	45.0%	*47.5%*	*46.0%*	Common Equity Ratio	*48.0%*
	7398.7	8046.3	8825.4	9796.4	9861.1	10263	11948	12820	13790	13718	*14625*	*15625*	Total Capital ($mill)	*18350*
	11194	11809	12714	13445	14030	14523	15159	15987	16854	17980	*19025*	*20050*	Net Plant ($mill)	*23050*
	6.4%	6.4%	6.0%	6.1%	6.2%	6.3%	5.5%	5.8%	4.5%	5.0%	*5.0%*	*5.0%*	Return on Total Cap'l	*5.5%*
	9.1%	9.5%	9.2%	9.9%	9.8%	9.9%	9.8%	10.5%	8.0%	8.1%	*8.0%*	*8.0%*	Return on Shr. Equity	*8.5%*
	9.1%	9.5%	9.2%	9.9%	9.8%	9.9%	9.8%	10.5%	8.0%	8.1%	*8.0%*	*8.0%*	Return on Com Equity [E]	*8.5%*
	3.5%	3.9%	3.5%	4.2%	3.9%	3.8%	3.5%	4.2%	1.7%	1.9%	*2.0%*	*2.5%*	Retained to Com Eq	*3.0%*
	62%	59%	62%	58%	60%	61%	64%	60%	78%	77%	*75%*	*72%*	All Div'ds to Net Prof	*63%*

CAPITAL STRUCTURE as of 12/31/23
Total Debt $9025.1 mill. **Due in 5 Yrs** $2225.0 mill.
LT Debt $7540.6 mill. **LT Interest** $355.0 mill.
(Total Interest Coverage: 2.6x)

Leases, Uncapitalized Annual rentals $19.2 mill.

Pension Assets-12/22 $2835.5 mill.
Oblig $2908.1 mill.

Pfd Stock None

Common Stock 113,427,367 shs.
as of 2/21/24
MARKET CAP: $8.4 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	-.1	+4.4	+2.8
Avg. Indust. Use (MWH)	808	849	874
Avg. Indust. Revs. per KWH (¢)	8.11	9.20	10.38
Capacity at Peak (Mw)	8726	8612	9629
Peak Load, Summer (Mw)	7580	7587	8159
Annual Load Factor (%)	45.1	48.1	45.7
% Change Customers (yr-end)	+2.2	+2.1	+1.8
Fixed Charge Cov. (%)	317	226	220

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	2.0%	3.5%	*4.0%*
"Cash Flow"	4.0%	3.5%	*3.5%*
Earnings	3.5%	2.0%	*4.5%*
Dividends	4.0%	5.0%	*1.5%*
Book Value	4.0%	3.5%	*4.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	696.5	1000.2	1308.2	798.9	3803.8
2022	783.5	1061.7	1469.9	1009.3	4324.4
2023	945.0	1121.7	1637.8	991.5	4696.0
2024	*1000*	*1190*	*1640*	*1010*	*4840*
2025	*1045*	*1240*	*1710*	*1055*	*5050*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	.32	1.91	3.00	.24	5.47
2022	.15	1.45	2.88	d.21	4.26
2023	d.03	.94	3.50	Nil	4.41
2024	*.05*	*1.25*	*3.40*	*Nil*	*4.70*
2025	*.05*	*1.33*	*3.62*	*Nil*	*5.00*

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.783	.783	.783	.83	3.18
2021	.83	.83	.83	.85	3.34
2022	.85	.85	.85	.865	3.42
2023	.865	.865	.865	.88	3.48
2024	.88				

BUSINESS: Pinnacle West Capital Corporation is a holding company for Arizona Public Service Company (APS), which supplies electricity to 1.4 million customers in most of Arizona, except about half of the Phoenix metro area, the Tucson metro area, and Mohave County in northwestern Arizona. Discontinued SunCor real estate subsidiary in '10. Electric revenue breakdown: residential, 49%; commercial/industrial, 44%; other, 7%. Generating sources: gas, 25%; nuclear, 25%; coal, 18%; renewables, 2%; purchased, 30%. Fuel costs: 38% of revenues. '23 reported deprec. rate: 2.98%. Has 6,133 employees. Chairman, President & CEO: Jeffrey B. Guldner. Inc.: AZ. Address: 400 North Fifth St., P.O. Box 53999, Phoenix, AZ 85072-3999. Tel.: 602-250-1000. Internet: www.pinnaclewest.com.

In late February, Pinnacle West received a constructive general rate case (GRC) decision. Investors may recall that from early 2022, the utility had been operating under revised regulatory parameters that cut its authorized return on equity (ROE) from 10% to 8.7% (one of the lowest levels for a major market at that time). The change effectively reduced Pinnacle's annual earnings power by over $1.00 per share. A revamped state regulatory commission, which has some new members and a different chairperson (due to term limits), heeded the recommendation of a state administrative law judge who consulted on the case. The newly established ROE of 9.55% plus an additional fair value increment (FVI) of .25% passed by a 4-1 vote. According to Pinnacle's CEO, assuming certain criteria are met for the FVI to kick in, the company's effective ROE will be 9.85%. The net effect of the GRC lifts the company's earning power by $1.33 per share. We're raising our rating on the Arizona regulatory climate back to "average." The 2021 GRC decision landed it in the below-average camp.

We've raised our 2024 share-earnings estimate. It's only going up by a dime, but that's because we expected a favorable GRC outcome from PNW's perspective. Notably, the additional earnings power is substantial, though not readily apparent in our estimates because the company benefited by $0.48 a share last year from an extreme heat wave. Moreover, there are a number of factors this year that are likely to offset the additional revenue from the increased ROE. The utility had been tightening its belt on operating and maintenance expense and that's set to rise, as are depreciation/amortization and interest expense. On the positive side of the ledger, weather-normalized retail sales growth in Arizona comes to about $0.25 a share annually on average. Pinnacle has a premium service area in terms of growth from interstate migration and rising energy demand from a thriving economy. There's no lack of capital investment prospects to drive rate-base growth there.

Though untimely, we think long-term utility investors should keep this stock on their watch list and target a pullback as an entry point.

Anthony J. Glennon *April 19, 2024*

(A) Diluted EPS. Excl. nonrec. gain/(loss): '09, ($1.45); '17, 8¢; gains/(losses) from discont. ops.: '08, 28¢; '09, (13¢); '10, 18¢; '11, 10¢; '12, (5¢). Qtly. EPS may not sum to full year due to rounding. Next egs. report due early May. **(B)** Div'ds historically paid in early Mar., June, Sept., & Dec. There were 5 declarations in '12. ■ Div'd reinvestment plan avail. **(C)** Incl. deferred charges/other intangibles. In '23: $27.22/sh. **(D)** In mill. **(E)** Rate base: Fair value. Rate allowed on common equity in '23: 9.55%-9.85%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	85
Price Growth Persistence	40
Earnings Predictability	90

PORTLAND GENERAL NYSE-POR

RECENT PRICE **41.66** | P/E RATIO **14.3** (Trailing: 17.6 Median: 18.0) | RELATIVE P/E RATIO **0.78** | DIV'D YLD **4.8%** | **VALUE LINE**

TIMELINESS 5 Lowered 8/11/23
SAFETY 3 Lowered 1/19/24
TECHNICAL 4 Lowered 3/8/24
BETA .90 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$35-$62 $49 (15%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	70	(+70%)	*17%*
Low	50	(+20%)	*9%*

Institutional Decisions

	2Q2023	3Q2023	4Q2023
to Buy	189	173	213
to Sell	170	186	164
Hld's(000)	103597	100907	103294

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
High:	33.3	40.3	41.0	45.2	50.1	50.4	58.4	63.1	53.1	57.0	51.6	44.8								
Low:	27.4	29.0	33.0	35.3	42.4	39.0	44.0	32.0	40.8	41.6	38.0	39.1								
	27.89	23.99	23.67	24.06	23.89	23.18	24.29	21.38	21.62	22.54	22.30	23.75	23.96	26.80	29.65	28.90	*30.30*	*31.55*	Revenues per sh	*34.90*
	4.71	4.07	4.82	4.96	5.15	4.93	6.08	5.37	5.78	6.16	6.65	6.97	7.83	7.25	7.41	6.83	*8.00*	*8.55*	"Cash Flow" per sh	*10.20*
	1.39	1.31	1.66	1.95	1.87	1.77	2.18	2.04	2.16	2.29	2.37	2.39	2.75	2.72	2.74	2.38	*3.05*	*3.25*	Earnings per sh [A]	*3.85*
	.97	1.01	1.04	1.06	1.08	1.10	1.12	1.18	1.26	1.34	1.43	1.52	1.59	1.70	1.79	1.88	*1.98*	*2.08*	Div'd Decl'd per sh [B] ■ †	*2.46*
	6.12	9.25	5.97	3.98	4.01	8.40	12.87	6.73	6.57	5.77	6.67	6.78	8.76	7.11	8.58	13.42	*12.90*	*11.75*	Cap'l Spending per sh	*11.00*
	21.64	20.50	21.14	22.07	22.87	23.30	24.43	25.43	26.35	27.11	28.07	28.99	29.18	30.28	31.13	32.81	*34.00*	*35.25*	Book Value per sh [C]	*39.75*
	62.58	75.21	75.32	75.36	75.56	78.09	78.23	88.79	88.95	89.11	89.27	89.39	89.54	89.41	89.28	101.16	*101.50*	*102.00*	Common Shs Outst'g [D]	*106.00*
	16.3	14.4	12.0	12.4	14.0	16.9	15.3	17.7	19.1	20.0	18.4	22.3	16.6	17.7	18.2	19.3	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*15.5*
	.98	.96	.76	.78	.89	.95	.81	.89	1.00	1.01	.99	1.19	.85	.96	1.05	1.08			Relative P/E Ratio	*.85*
	4.3%	5.4%	5.2%	4.4%	4.1%	3.7%	3.3%	3.3%	3.1%	2.9%	3.3%	2.8%	3.5%	3.5%	3.6%	4.1%			Avg Ann'l Div'd Yield	*4.1%*
	1900.0	1898.0	1923.0	2009.0	1991.0	2123.0	2145.0	2396.0	2647.0	2923.0	*3075*	*3220*	Revenues ($mill)	*3700*
	175.0	172.0	193.0	204.0	212.0	214.0	247.0	244.0	245.0	233.0	*310*	*330*	Net Profit ($mill)	*405*
	26.0%	20.7%	20.6%	25.3%	7.4%	11.2%	12.4%	8.6%	15.2%	16.8%	*17.5%*	*17.5%*	Income Tax Rate	*17.5%*
	33.7%	19.8%	16.6%	8.8%	8.0%	7.0%	9.7%	10.2%	8.6%	13.7%	*11.0%*	*11.0%*	AFUDC % to Net Profit	*11.0%*
	52.7%	47.8%	48.4%	50.1%	46.5%	51.3%	53.6%	56.8%	57.0%	55.8%	*58.5%*	*60.0%*	Long-Term Debt Ratio	*60.0%*
	47.3%	52.2%	51.6%	49.9%	53.5%	48.7%	46.4%	43.2%	43.0%	44.2%	*41.5%*	*40.0%*	Common Equity Ratio	*40.0%*
	4037.0	4329.0	4544.0	4842.0	4684.0	5323.0	5628.0	6265.0	6459.0	7513.0	*8325*	*8975*	Total Capital ($mill)	*10500*
	5679.0	6012.0	6434.0	6741.0	6887.0	7161.0	7539.0	8005.0	8465.0	9546.0	*10350*	*11000*	Net Plant ($mill)	*12600*
	5.8%	5.4%	5.6%	5.5%	5.8%	5.1%	5.6%	4.9%	4.9%	4.2%	*5.0%*	*5.0%*	Return on Total Cap'l	*5.0%*
	9.2%	7.6%	8.2%	8.4%	8.5%	8.3%	9.5%	9.0%	8.8%	7.0%	*9.0%*	*9.0%*	Return on Shr. Equity	*9.5%*
	9.2%	7.6%	8.2%	8.4%	8.5%	8.3%	9.5%	9.0%	8.8%	7.0%	*9.0%*	*9.0%*	Return on Com Equity [E]	*9.5%*
	4.6%	3.3%	3.5%	3.6%	3.5%	3.1%	4.1%	3.5%	3.1%	1.6%	*3.0%*	*3.5%*	Retained to Com Eq	*3.5%*
	50%	56%	57%	58%	59%	63%	57%	61%	64%	77%	*65%*	*64%*	All Div'ds to Net Prof	*64%*

CAPITAL STRUCTURE as of 12/31/23
Total Debt $4440 mill. **Due in 5 Yrs** $467 mill.
LT Debt $4194 mill. **LT Interest** $166 mill.
Incl. $289 mill. finance leases.
(Total Interest Coverage: 2.5x)
Leases, Uncapitalized Annual rentals $3 mill.
Pension Assets-12/23 $530 mill.
Oblig $690 mill.
Pfd Stock None

Common Stock 101,162,366 shs.
as of 2/8/24

MARKET CAP: $4.2 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	+5.1	+3.4	+.9
Avg. Indust. Use (MWH)	20002	22097	23052
Avg. Indust. Revs. per KWH (¢)	5.22	5.23	5.85
Capacity at Peak (MW)	NA	NA	NA
Peak Load, Summer (MW)	4453	4255	4498
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.6	+1.1	+.7
Fixed Charge Cov. (%)	261	254	217

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	2.0%	5.0%	*3.5%*
"Cash Flow"	3.5%	3.0%	*6.0%*
Earnings	3.5%	3.0%	*6.0%*
Dividends	5.0%	6.0%	*5.5%*
Book Value	3.5%	3.0%	*4.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	609	537	642	608	2396
2022	626	591	743	687	2647
2023	748	648	802	725	2923
2024	*750*	*700*	*850*	*775*	*3075*
2025	*785*	*735*	*890*	*810*	*3220*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	1.07	.36	.56	.73	2.72
2022	.67	.72	.65	.70	2.74
2023	.80	.44	.46	.67	2.38
2024	*.95*	*.60*	*.70*	*.80*	*3.05*
2025	*1.00*	*.65*	*.75*	*.85*	*3.25*

QUARTERLY DIVIDENDS PAID [B] ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.385	.385	.385	.4075	1.56
2021	.4075	.4075	.43	.43	1.68
2022	.43	.43	.4525	.4525	1.77
2023	.4525	.4525	.475	.475	1.86
2024	.475	.475			

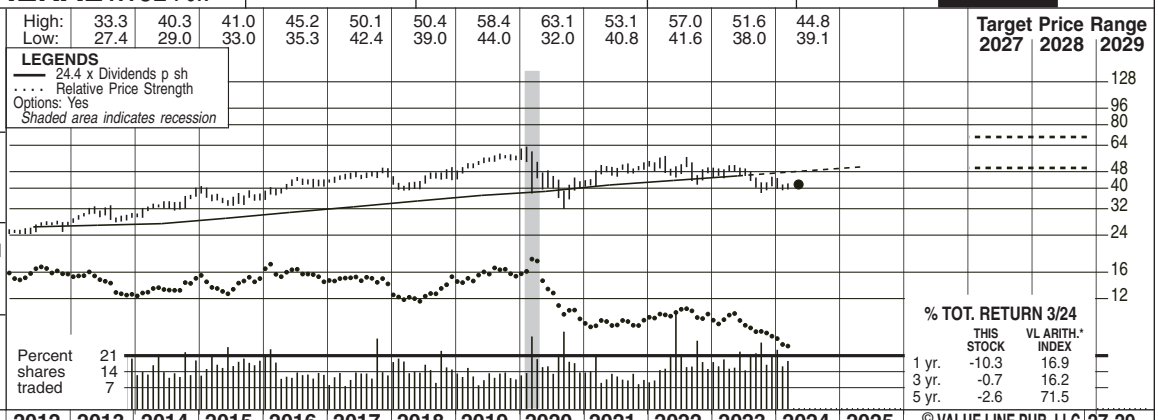
BUSINESS: Portland General Electric Company provides electricity to 934,000 customers in 51 cities in a 4,000-square-mile area of Oregon, including Portland and Salem (population: 1.9 million). The company is in the process of decommissioning the Trojan nuclear plant, which was closed in 1993. Electric revenue breakdown: residential, 52%; commercial, 33%; industrial, 15%; other, less than 1%. Generating sources: gas, 40%; wind, 7%; coal, 8%; hydro, 4%; purchased, 41%. Fuel costs: 40% of revenues. '23 reported depreciation rate: 3.4%. Has 2,842 full-time employees. Chair: James P. Torgerson. President and CEO: Maria M. Pope. Incorporated: Oregon. Address: 121 S.W. Salmon Street, Portland, OR 97204. Tel.: 503-464-8000. Internet: www.portlandgeneral.com.

Portland General Electric's per-share profits should bounce back this year and next. In 2023, the company suffered from weather that was exceedingly mild, resulting in less than 1% volume growth for a service area that is accustomed to 2% or better. On top of that, purchased-power costs were excessively high, as mild weather is not ideal for hydroelectric and wind power production in the Pacific Northwest. This resulted in a tight supply situation that drove up pricing. Management expects the utility will earn $2.98-$3.18 a share in 2024. To a large extent, the recovery is based on normalized weather conditions, as well as utility rate relief, to address last year's rise in costs and investments made in the electric grid. In 2025, a general rate case decision is due. Portland General is seeking $225 million in additional annual revenues for recoupment of investments made, plus timely recovery mechanisms via customer billing pass-throughs. The company appears to have a reasonably good partnership with the state of Oregon in terms of addressing the state's "green" energy commitments. We think that will translate to a constructive rate-case outcome.

Longer term, the utility's 5%-7% earnings and dividend growth targets seem achievable. Over time, Portland General's bottom line should be less volatile, as the company reduces its reliance on open market power purchases, which have a tendency to spike in price. The company has the green light from regulators to add at least 375-500 megawatts of nonemitting annual power generation in the intermediate term, plus significant battery storage capacity. Projects committed to appear to have solid partnerships in place with lengthy annual purchased-power agreements on portions of generating capacity the company does not directly own. There should be several years of 8%-plus rate base growth, as the general outline of the projects described above are replicated six-fold into the 2030s. On the demand front, 2% annual load growth is supported by a healthy high-tech industrial segment in Portland General's service area.

Though untimely, patient utility investors can do well here, as the stock offers good total return prospects.

Anthony J. Glennon *April 19, 2024*



(A) Diluted earnings. Excl. nonrecurring gains/(losses): '13, (42¢); '17, (19¢); '20, ($1.03); '22, (14¢); '23, (5¢). Quarterly EPS many not sum to full year due to rounding. Next earnings report due early May. **(B)** Dividends paid mid-Jan., Apr., July, and Oct. ■ Dividend reinvestment plan available. † Shareholder investment plan available. **(C)** Incl. deferred charges. In '23: $492 mill., $4.86/sh. **(D)** In mill. **(E)** Rate base: Net original cost. Rate allowed on common equity in '22: 9.5%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	40
Earnings Predictability	95

XCEL ENERGY NDQ-XEL

RECENT PRICE **54.08** | P/E RATIO **15.3** (Trailing: 16.2 Median: 20.0) | RELATIVE P/E RATIO **0.83** | DIV'D YLD **4.2%** | **VALUE LINE**

TIMELINESS 4 Lowered 12/1/23
SAFETY 2 Lowered 1/19/24
TECHNICAL 4 Lowered 4/12/24
BETA .85 (1.00 = Market)

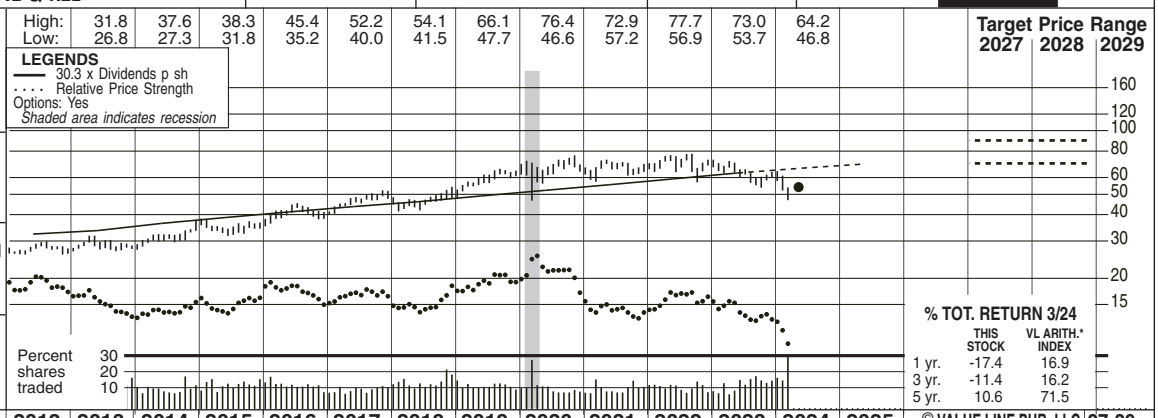
18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$51-$91 $71 (30%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	90	(+65%)	*17%*
Low	70	(+30%)	*10%*

Institutional Decisions

	2Q2023	3Q2023	4Q2023
to Buy	426	448	514
to Sell	422	404	387
Hld's(000)	432509	434495	438235



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
24.69	21.08	21.38	21.90	20.76	21.92	23.11	21.72	21.90	22.46	22.44	21.98	21.45	24.69	27.86	25.60	***27.70***	***28.65***	Revenues per sh	***32.05***
3.50	3.48	3.51	3.79	4.00	4.10	4.28	4.56	5.04	5.47	5.92	6.25	6.61	7.08	7.81	7.96	***8.60***	***9.25***	"Cash Flow" per sh	***11.25***
1.46	1.49	1.56	1.72	1.85	1.91	2.03	2.10	2.21	2.30	2.47	2.64	2.79	2.96	3.17	3.35	***3.55***	***3.80***	Earnings per sh [A]	***4.70***
.94	.97	1.00	1.03	1.07	1.11	1.20	1.28	1.36	1.44	1.52	1.62	1.72	1.83	1.95	2.08	***2.19***	***2.30***	Div'd Decl'd per sh [B] ■ †	***2.67***
4.66	3.91	4.60	4.53	5.27	6.82	6.33	7.26	6.42	6.54	7.70	8.05	9.99	7.80	8.44	10.55	***13.25***	***16.40***	Cap'l Spending per sh	***11.65***
15.35	15.92	16.76	17.44	18.19	19.21	20.20	20.89	21.73	22.56	23.78	25.24	27.12	28.70	30.34	31.74	***33.30***	***35.00***	Book Value per sh [C]	***41.35***
453.79	457.51	482.33	486.49	487.96	497.97	505.73	507.54	507.22	507.76	514.04	524.54	537.44	544.03	549.58	554.94	***560.00***	***565.00***	Common Shs Outst'g [D]	***580.00***
13.7	12.7	14.1	14.2	14.8	15.0	15.4	16.5	18.5	20.2	18.9	22.3	23.9	22.5	22.2	19.0	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	***17.0***
.82	.85	.90	.89	.94	.84	.81	.83	.97	1.02	1.02	1.19	1.23	1.22	1.28	1.06			Relative P/E Ratio	***.95***
4.7%	5.1%	4.5%	4.2%	3.9%	3.9%	3.8%	3.7%	3.3%	3.1%	3.3%	2.7%	2.6%	2.8%	2.8%	3.3%			Avg Ann'l Div'd Yield	***3.3%***
11686	11024	11107	11404	11537	11529	11526	13431	15310	14206	***15500***	***16200***	Revenues ($mill)	***18600***
1021.3	1063.6	1123.4	1171.0	1261.0	1372.0	1473.0	1597.0	1736.0	1851.0	***1985***	***2140***	Net Profit ($mill)	***2725***
33.9%	35.8%	34.1%	30.7%	12.6%	8.5%	--	--	--	--	***NMF***	***NMF***	Income Tax Rate	***NMF***
12.5%	7.7%	7.8%	9.4%	12.4%	8.3%	10.7%	6.2%	5.9%	7.7%	***10.0%***	***9.0%***	AFUDC % to Net Profit	***8.0%***
53.0%	54.1%	56.3%	55.9%	56.4%	56.8%	57.4%	58.2%	57.8%	58.6%	***60.5%***	***62.5%***	Long-Term Debt Ratio	***62.5%***
47.0%	45.9%	43.7%	44.1%	43.6%	43.2%	42.6%	41.8%	42.2%	41.4%	***39.5%***	***37.5%***	Common Equity Ratio	***37.5%***
21714	23092	25216	25975	28025	30646	34220	37391	39488	42529	***46975***	***53000***	Total Capital ($mill)	***64200***
28757	31206	32842	34329	36944	39483	42950	45457	48253	51642	***56225***	***62450***	Net Plant ($mill)	***74000***
6.0%	5.8%	5.7%	5.8%	5.7%	5.6%	5.4%	5.3%	5.5%	5.4%	***5.5%***	***5.0%***	Return on Total Cap'l	***5.5%***
10.0%	10.0%	10.2%	10.2%	10.3%	10.4%	10.1%	10.2%	10.4%	10.5%	***10.5%***	***11.0%***	Return on Shr. Equity	***11.5%***
10.0%	10.0%	10.2%	10.2%	10.3%	10.4%	10.1%	10.2%	10.4%	10.5%	***10.5%***	***11.0%***	Return on Com Equity [E]	***11.5%***
4.5%	4.3%	4.0%	3.9%	4.3%	4.4%	4.2%	4.2%	4.3%	4.3%	***4.0%***	***4.5%***	Retained to Com Eq	***5.0%***
55%	57%	61%	62%	58%	58%	58%	59%	58%	59%	***61%***	***60%***	All Div'ds to Net Prof	***57%***

CAPITAL STRUCTURE as of 12/31/23
Total Debt $26250 mill. **Due in 5 Yrs** $3790 mill.
LT Debt $24913 mill. **LT Interest** $904 mill.
Incl. $218 mill. finance leases.
(Total Interest Coverage: 2.8x)

Leases, Uncapitalized Annual rentals $277 mill.
Pension Assets-12/23 $2690 mill.
Oblig $2943 mill.

Pfd Stock None

Common Stock 555,155,770 shs.
as of 2/15/24
MARKET CAP: $30.0 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	+1.4	+1.2	-1.6
Resid'l Revs. per KWH (¢)	12.94	13.41	13.80
C & I Revs. per KWH (¢)	8.73	9.02	8.82
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	19849	20346	20512
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	262	255	245

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	2.0%	3.0%	*3.5%*
"Cash Flow"	7.0%	7.0%	*7.0%*
Earnings	5.5%	6.5%	*7.0%*
Dividends	6.0%	6.5%	*5.5%*
Book Value	5.0%	6.0%	*5.5%*

BUSINESS: Xcel Energy Inc. is the parent of Northern States Power Company (NSP), which supplies electricity to MN, WI, ND, SD & MI & gas to MN, WI, ND & MI; Public Service Company of Colorado (PSCo), which supplies electricity & gas to CO; & Southwestern Public Service Company (SPS), which supplies electricity to TX and NM. Customers: 3.8 mill. electric, 2.2 mill. gas. Electric revenues: resid'l, 31%; comm'l & ind'l, 50%; other, 19%. Purchases 34% of power, owns 66%. Total electric mix: wind, 29%; gas, 23%; coal, 13%, nuclear, 24%, solar/other, 11%. Fuel cost: 40% of revenues. '23 deprec. rate: 3.6%. Employs 11,311. Chrmn., President, and CEO: Robert Frenzel. Inc.: MN. Addr.: 414 Nicollet Mall, Minneapolis, MN 55401. Tel.: 612-330-5500. Int.: www.xcelenergy.com.

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	3541	3068	3467	3355	13431
2022	3751	3424	4082	4053	15310
2023	4080	3022	3662	3442	14206
2024	***4100***	***3325***	***4050***	***4025***	***15500***
2025	***4275***	***3475***	***4230***	***4220***	***16200***

Calendar	EARNINGS PER SHARE [A] Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	.67	.58	1.13	.58	2.96
2022	.70	.60	1.18	.69	3.17
2023	.76	.52	1.23	.83	3.35
2024	***.80***	***.60***	***1.30***	***.85***	***3.55***
2025	***.85***	***.65***	***1.40***	***.90***	***3.80***

Calendar	QUARTERLY DIVIDENDS PAID [B] ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.405	.43	.43	.43	1.70
2021	.43	.4575	.4575	.4575	1.80
2022	.4575	.4875	.4875	.4875	1.92
2023	.4875	.52	.52	.52	2.05
2024	.52	.5475			

Xcel Energy stock is down sharply this year due to the company's role in the recent Texas Panhandle wildfires. There are multiple ongoing blazes in this region under various names with different levels of containment. The utility holding company disputes it's subsidiary acted negligently, but has acknowledged that its equipment had a part in igniting what's being called the Smokehouse Creek fire. That blaze has scorched more than one million acres, destroyed about 80 homes, and caused at least two deaths. Xcel does not believe that its equipment had a part in other contiguous wildfires, such as the Windy Deuce blaze. At one point, the equity was down nearly 25% in value on a year-to-date basis. As the fires have become contained and liabilities reasonably assessed Xcel shares have started to recover, but are still down 13% year to date. These drops are off of what were already discount levels late last year from the pressure higher interest rates unleashed on the rate-sensitive utility sector. We doubt that this unfortunate disaster will result in claims that exceed Xcel's $560 million of liability insurance.

Meanwhile, little has changed on the Marshall Wildfire litigation scene in Colorado. There, Xcel faces 14 complaints with 675 plaintiffs, which have been consolidated into a single case. There were two deaths and nearly 1,100 structures were either damaged or fully destroyed in the December, 2021 fire. The state of Colorado estimated the damages to be over $2 billion. Xcel has $560 million of liability coverage associated with that incident. The company expects to get a litigation calender some time this year with a trial most likely taking place in 2025. Management strongly disputes the findings of Colorado officials regarding Xcel's equipment being a source of ignition.

On an operating basis, this company has been a model of consistency few utilities can match. It almost always delivers solid annual earnings and dividend increases to shareholders. We think the valuation hit the company has taken recently is likely overdone. Although ranked to underperform over the near term, the shares offer significant recovery potential in the 18-month timeframe.

Anthony J. Glennon *April 19, 2024*

(A) Diluted EPS. Excl. nonrec. gain/(losses): '10, 5¢; '15, (16¢); '17, (5¢); '23, (14¢); gain/(loss) on discontinued ops.: '09, (1¢); '10, 1¢. Qtly. EPS may not sum to full yr. due to rounding. Next egs. report due April 25th. **(B)** Div'ds typically paid mid-Jan., Apr., July, and Oct. ■ Div'd reinvestment plan available. † Shareholder investment plan available. **(C)** Incl. intangibles. In '23: $2798 mill., $5.04/sh. **(D)** In mill. **(E)** Rate base: Varies. Rate allowed on common equity (blended): 9.6%. Regulatory Climate: Average.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	65
Earnings Predictability	100

All major Electric Utilities located in the Central region of the United States are reviewed in this Issue; eastern-based electrics, in Issue 1; and the remaining industry participants, in Issue 5.

Electric Utility (Central) stocks covered in *The Value Line Investment Survey* slipped 1.3% in value, on average, versus a more than 10% jump in the S&P 500 since our last review three months ago.

Utilities have continued to be one of the worst-performing sectors as of late. Remember, utility stocks were hit hard by the rise in interest rates over the past year, which sent the 10-year Treasury yield above 5.0% in October, a level not seen since 2007. But there may be better days ahead, as interest rates have come down in anticipation of the Federal Reserve's dovish pivot, sending the 10-year Treasury yield back to about 4.3%. The bond market provides an alternative investment option for income-oriented accounts, and investors should keep an eye on the close spread between Treasurys and utility dividend yield payouts moving forward.

Timeliness Of Utility Sector

A number of equities covered in the Utility (Central) Industry continue to trade at double-digit discounts to historical valuations, but we are skeptical of the current state of electrics. And, while the group's prospects will likely improve if interest rates continue to fall, we do not anticipate a return to the same favorable backdrop for interest rate-sensitive stocks seen a few years ago. It is important for utility investors to be disciplined buyers in this challenging market environment. We recommend that accounts seek out utilities with above-average dividend growth prospects (4.5%), a solid or improving balance sheet, and keep a well-diversified portfolio. Look out for stocks with about 11% or greater annual return projections, based on the 3- to 5-year Target Price Range and dividend estimates. Including the reduced risk of electrics, this growth is about average compared to the broader market.

Macroeconomic Backdrop

The macro environment continues to negatively impact utilities. Higher interest rates, along with wage, material, and fuel inflation remain the main challenges for electrics. While some of these costs can rapidly be passed on to consumers, the rest have to go through a filed rate case process with regulators. The regulatory lag before recoupment can be a lengthy process, and be detrimental to a utility's earnings and dividend growth as it causes them to under earn their return on equity (ROE). Accounts can help their cause by choosing candidates with pending rate cases nearing approval, and real-time pricing adjustments to minimize regulatory lag. Regulatory and regional environments vary drastically between utility stocks. Weather and legislative conditions, as well as the health of local economies, are important factors when investing in utilities. Indeed, states that are committed to 'green' energy goals will generate capital opportunities for electrics in those areas, which will likely lead to improving growth prospects. While interest rates are a significant factor in our valuations, there are a number of other stand-alone forces, as mentioned, that investors should look for in order to be disciplined buyers in this challenging macro environment.

INDUSTRY TIMELINESS: 82 (of 93)

Continued Dividend Hikes

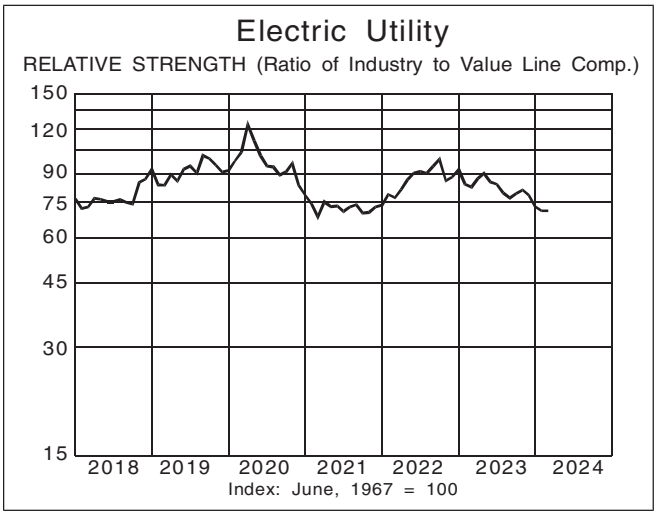
The most notable feature for most electrics in this group is the dividend. The recently increased industrywide yield average of 3.9% stands far above ***The Value Line*** median. And, a number of utilities recently raised their already above-average payouts. Indeed, *WEC Energy* boosted its quarterly dividend by $0.055 a share (7%), which was a bit larger than the $0.053 (6%) hike we anticipated. This marked 21-consecutive years of dividend hikes, and the company also maintained its goals of a payout ratio of 65%-70% of earnings, and dividend growth in line with the EPS growth. Too, *Otter Tail* raised its quarterly dividend by $0.03 a share (6.9%) in the fourth quarter. Despite the recent hike, the yield of 2.2% still sits below the high-paying industrywide average. Plenty of other electrics hiked their quarterly payout since our last review, including *Ameren* (6.3%), *ALLETE* (4.1%), and *Fortis* (4.4%), to name a few.

Conclusion

Utilities continue to trail the broader market averages due to the interest rate and macroeconomic environment. While the interest rate climate seems to be improving, macro challenges show no signs of change anytime soon. As a result, we are not too bullish on electrics at this juncture. We advise investors to follow our aforementioned advice on selecting equities in this group, and be more cautious than usual due to the unfavorable backdrop.

Utilities tend to have below-average short- and long-term capital appreciation potential versus the broader *Value Line* median. We recommend looking for equities with 11% or greater long-term annual return potential due to the reduced risk and high dividend payouts of most electrics. Investors should also consider each equity's regulatory and regional environment, as these are significant, differentiating factors in electrics. The close spread between Treasury rates and utility dividends will be of great importance moving forward, and as always, look out for future rate-setting meetings.

Zachary J. Hodgkinson



AMEREN NYSE-AEE

RECENT PRICE **70.83** | P/E RATIO **15.4** (Trailing: 16.2 Median: 20.0) | RELATIVE P/E RATIO **0.89** | DIV'D YLD **3.8%** | **VALUE LINE**

TIMELINESS 4 Lowered 12/29/23
SAFETY 1 Raised 9/10/21
TECHNICAL 4 Lowered 3/8/24
BETA .90 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$61-$116 $89 (25%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	125	(+75%)	*18%*
Low	105	(+50%)	*13%*

Institutional Decisions

	1Q2023	2Q2023	3Q2023
to Buy	296	289	280
to Sell	268	287	314
Hld's(000)	205221	204708	210352

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
High:	37.3	48.1	46.8	54.1	64.9	70.9	80.9	87.7	90.8	99.2	91.2	74.8								
Low:	30.6	35.2	37.3	41.5	51.4	51.9	63.1	58.7	69.8	73.3	69.7	67.0								
	36.92	29.87	31.77	31.04	28.14	24.06	24.95	25.13	25.04	25.46	25.73	24.00	22.87	24.81	30.37	28.10	***30.85***	***32.35***	Revenues per sh	***33.70***
	6.44	6.06	6.33	5.87	5.87	5.25	5.77	6.08	6.59	6.80	7.64	7.83	8.08	8.89	9.59	9.99	***10.55***	***11.15***	"Cash Flow" per sh	***12.25***
	2.88	2.78	2.77	2.47	2.41	2.10	2.40	2.38	2.68	2.77	3.32	3.35	3.50	3.84	4.14	4.37	***4.60***	***4.90***	Earnings per sh [A]	***5.75***
	2.54	1.54	1.54	1.56	1.60	1.60	1.61	1.66	1.72	1.78	1.85	1.92	2.00	2.20	2.36	2.52	***2.68***	***2.86***	Div'd Decl'd per sh [B] ■	***3.30***
	9.75	7.51	4.66	4.50	5.49	5.87	7.66	8.12	8.78	9.05	9.56	9.92	13.02	13.67	12.79	***12.90***	***12.55***	***12.80***	Cap'l Spending per sh	***13.00***
	32.80	33.08	32.15	32.64	27.27	26.97	27.67	28.63	29.27	29.61	31.21	32.73	35.29	37.64	40.11	40.26	***42.90***	***45.95***	Book Value per sh [C]	***52.65***
	212.30	237.40	240.40	242.60	242.63	242.63	242.63	242.63	242.63	242.63	244.50	246.20	253.30	257.70	262.00	267.00	***269.00***	***272.00***	Common Shs Outst'g [D]	***285.00***
	14.2	9.3	9.7	11.9	13.4	16.5	16.7	17.5	18.3	20.6	18.3	22.1	22.2	21.4	21.5	18.8	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	***20.0***
	.85	.62	.62	.75	.85	.93	.88	.88	.96	1.04	.99	1.18	1.14	1.16	1.24	1.07			Relative P/E Ratio	***1.10***
	6.2%	6.0%	5.8%	5.3%	5.0%	4.6%	4.0%	4.0%	3.5%	3.1%	3.0%	2.6%	2.6%	2.7%	2.7%	3.3%			Avg Ann'l Div'd Yield	***3.0%***
	6053.0	6098.0	6076.0	6177.0	6291.0	5910.0	5794.0	6394.0	7957.0	7502.0	***8300***	***8800***	Revenues ($mill)	***9600***
	593.0	585.0	659.0	683.0	821.0	834.0	877.0	995.0	1074.0	1166.8	***1235***	***1330***	Net Profit ($mill)	***1640***
	38.9%	38.3%	36.7%	38.2%	22.4%	17.9%	15.0%	13.6%	14.0%	12.0%	***12.0%***	***12.0%***	Income Tax Rate	***12.0%***
	5.7%	5.1%	4.1%	5.6%	6.9%	5.8%	5.5%	6.0%	5.0%	6.0%	***5.0%***	***5.0%***	AFUDC % to Net Profit	***4.0%***
	47.2%	49.3%	47.7%	49.2%	50.3%	52.1%	55.0%	56.1%	56.6%	55.7%	***53.5%***	***52.5%***	Long-Term Debt Ratio	***51.0%***
	51.7%	49.7%	51.3%	49.8%	48.8%	47.1%	44.3%	43.3%	43.4%	43.8%	***46.0%***	***47.0%***	Common Equity Ratio	***48.5%***
	12975	13968	13840	14420	15632	17116	20158	22391	24193	***24950***	***25750***	***26450***	Total Capital ($mill)	***29500***
	17424	18799	20113	21466	22810	24376	26807	29261	31262	***33050***	***35000***	***36300***	Net Plant ($mill)	***38400***
	5.8%	5.3%	6.0%	6.0%	6.4%	6.0%	5.3%	5.3%	5.4%	5.5%	***5.0%***	***5.0%***	Return on Total Cap'l	***6.0%***
	8.7%	8.3%	9.1%	9.3%	10.6%	10.2%	9.7%	10.1%	10.2%	11.0%	***11.0%***	***11.0%***	Return on Shr. Equity	***10.0%***
	8.7%	8.3%	9.2%	9.4%	10.7%	10.3%	9.7%	10.2%	10.2%	11.0%	***11.0%***	***11.0%***	Return on Com Equity [E]	***10.0%***
	2.9%	2.5%	3.3%	3.4%	4.8%	4.4%	4.2%	4.4%	4.4%	5.0%	***5.0%***	***5.0%***	Retained to Com Eq	***4.0%***
	67%	70%	64%	64%	56%	57%	57%	57%	57%	57%	***56%***	***56%***	All Div'ds to Net Prof	***60%***

CAPITAL STRUCTURE as of 9/30/23
Total Debt $16018 mill. **Due in 5 Yrs** $2789 mill.
LT Debt $13829 mill. **LT Interest** $450 mill.
(LT interest earned: 3.8x)
Pension Assets-12/22 $5745 mill.
Oblig $5457 mill.
Pfd Stock $129 mill. **Pfd Div'd** $5 mill.
807,595 sh. $3.50 to $5.50 cum. (no par), $100 stated val., redeem. $102.176-$110/sh.; 487,508 sh. 4.00% to 5.16%, $100 par, redeem. $100-$104.30/sh.
Common Stock 262,945,048 shs.
as of 10/31/23
MARKET CAP: $18.6 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2020	2021	2022
% Change Retail Sales (KWH)	-3.5	-5.6	+2.1
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	307	291	325

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	-1.5%	.5%	*4.0%*
"Cash Flow"	4.0%	6.5%	*5.5%*
Earnings	4.0%	8.0%	*6.5%*
Dividends	3.5%	5.0%	*6.5%*
Book Value	2.0%	5.5%	*6.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	1566	1472	1811	1545	6394
2022	1879	1726	2306	2046	7957
2023	2062	1760	2060	1620	7502
2024	***2100***	***1800***	***2400***	***2000***	***8300***
2025	***2200***	***1800***	***2500***	***2300***	***8800***

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	.91	.80	1.65	.48	3.84
2022	.97	.80	1.74	.63	4.14
2023	1.00	.90	1.87	.60	4.37
2024	***1.15***	***.90***	***1.95***	***.60***	***4.60***
2025	***1.20***	***.95***	***2.00***	***.75***	***4.90***

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.495	.495	.495	.515	2.00
2021	.55	.55	.55	.55	2.20
2022	.59	.59	.59	.59	2.36
2023	.63	.63	.63	.63	2.52
2024					

BUSINESS: Ameren Corporation is a holding company formed through the merger of Union Electric and CIPSCO. Has 1.2 million electric and 127,000 gas customers in Missouri; 1.2 million electric and 813,000 gas customers in Illinois. Discontinued nonregulated power-generation operation in '13. Electric revenue breakdown: residential, 49%; commercial, 34%; industrial, 8%; other, 9%. Generating sources: coal, 73%; nuclear, 11%; hydro & other, 9%; purchased, 7%. Fuel costs: 25% of revenues. Has approximately 9,250 employees. Chairman: Warner L. Baxter. President & CEO: Martin J. Lyons, Jr. Inc.: Missouri. Address: One Ameren Plaza, 1901 Chouteau Ave., P.O. Box 66149, St. Louis, MO 63166-6149. Tel.: 314-621-3222. Internet: www.ameren.com.

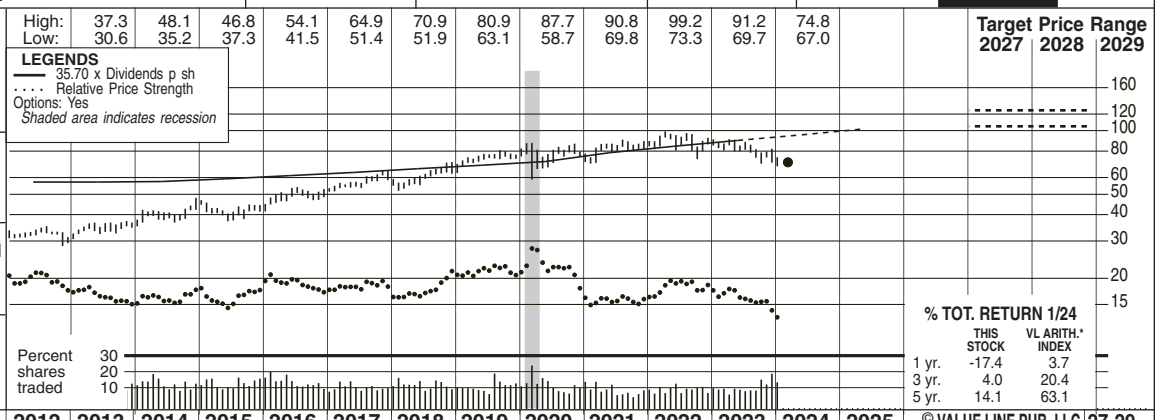
Ameren has continued to perform consistently well over the past decade. Over the past 10 years, weather-normalized core earnings per share have risen at a compound annual growth rate of 7.8% while annual dividends paid per share have increased approximately 58%. The board of directors approved a quarterly dividend increase of 6.3%, representing more than a decade of consecutive hikes. Meanwhile, Ameren remains committed to its goals for increases to be in a range of 6%-8% annually (matching its target for earnings growth), with a payout ratio of 55%-65%.

Recent financial results and the 2024 outlook appear to be solid. Indeed, the company reported a 10% year over year rise in earnings per share in 2023, on a weather-normalized basis. The utility continues to benefit from increased infrastructure investments, higher electric service rates, lower tax expenses, and strong rate base growth. And, these catalysts will likely remain prevalent over the next few years. We expect 2024 earnings to come in at $4.60 a share, within management's EPS growth target of 6%-8%.

We are introducing our 2025 bottom-line estimate of $4.90 per share. Ameren will have a full year's effect of rate relief in Missouri and Illinois, and will continue to benefit from rate base growth and increased infrastructure investment over that interim. Too, the Inflation Reduction Act should continue to support the clean energy transition, reducing the costs of related infrastructure investments for customers over the long term. The utility expects to invest approximately $4.4 billion during 2024 in electric, natural gas, and transmission infrastructure compared to $3.5 billion last year. We also think the company will earn $5.75 per share by 2027-2029.

This stock is best suited for conservative income-oriented investors. Indeed, the dividend yield of this untimely but high-quality stock is about average for a utility, which is one of the highest dividend-paying industries in the market. What's more, capital appreciation potential for both the 18-month and 3- to 5-year time frames is solid compared to most of its peers.

Zachary J. Hodgkinson *March 8, 2024*



(A) Diluted EPS. Excl. nonrec. gain (losses): '10, ($2.19); '11, (32¢); '12, ($6.42); '17, (63¢); gain (loss) from discontinued ops.: '13, (92¢); '15, 21¢. Next earnings report due mid-May.
(B) Div'ds paid late Mar., June, Sept., & Dec. ■ Div'd reinvest. plan avail. (C) Incl. intang. In '21: $6.60/sh. (D) In mill. (E) Rate base: Orig. cost depr. Rate allowed on com. eq. in MO in '22: elec. & gas, none specified; in IL: electric, varies; in '21: gas, 9.67%; earned on avg. com. eq., '21: 10.6%.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	80
Earnings Predictability	100

AMERICAN ELEC. PWR. NDQ-AEP

RECENT PRICE **80.77** | P/E RATIO **14.2** (Trailing: 17.0 Median: 18.0) | RELATIVE P/E RATIO **0.82** | DIV'D YLD **4.4%** | **VALUE LINE**

TIMELINESS 4 Lowered 12/15/23
SAFETY 1 Raised 3/17/23
TECHNICAL 4 Raised 2/9/24
BETA .80 (1.00 = Market)

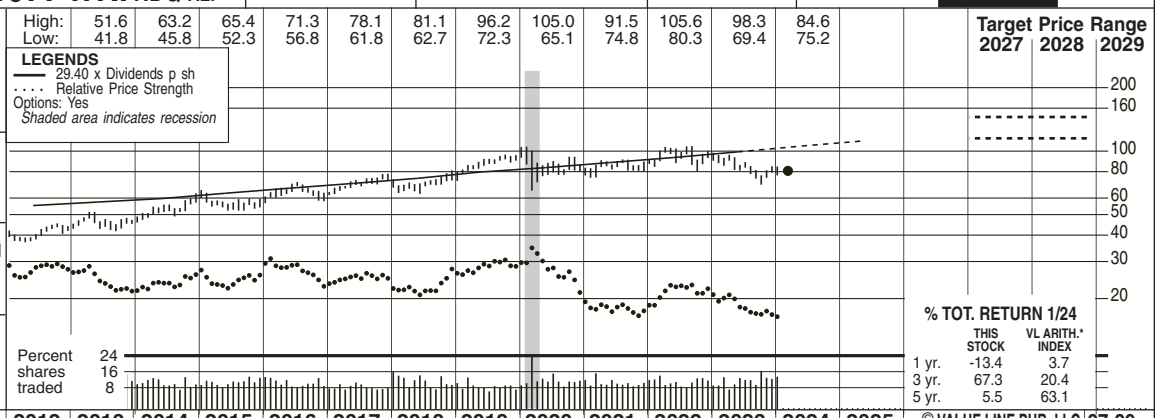
18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$70-$125 $98 (20%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	145	(+80%)	*19%*
Low	115	(+40%)	*13%*

Institutional Decisions

	1Q2023	2Q2023	3Q2023
to Buy	635	596	599
to Sell	532	572	557
Hld's(000)	381232	386016	391405



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
35.56	28.22	30.01	31.27	30.77	31.48	34.78	33.51	33.31	31.35	32.84	31.49	30.04	33.30	38.20	36.08	***38.75***	***40.20***	Revenues per sh	***42.75***
6.84	6.32	6.29	6.83	6.92	7.02	7.57	7.98	8.47	7.95	8.77	9.35	10.28	10.98	10.72	10.92	***11.65***	***12.35***	"Cash Flow" per sh	***15.20***
2.99	2.97	2.60	3.13	2.98	3.18	3.34	3.59	4.23	3.62	3.90	4.08	4.42	4.96	5.09	5.24	***5.60***	***6.00***	Earnings per sh A	***7.25***
1.64	1.64	1.71	1.85	1.88	1.95	2.03	2.15	2.27	2.39	2.53	2.71	2.84	3.00	3.17	3.37	***3.60***	***3.81***	Div'd Decl'd per sh B ■ †	***4.16***
9.83	6.19	5.07	5.74	6.45	7.75	8.68	9.37	9.98	11.79	12.89	12.43	12.72	11.43	13.18	***15.35***	***14.15***	***14.10***	Cap'l Spending per sh	***14.00***
26.33	27.49	28.33	30.33	31.37	32.98	34.37	36.44	35.38	37.17	38.58	39.73	41.38	44.49	46.60	48.46	***55.05***	***58.90***	Book Value per sh C	***62.55***
406.07	478.05	480.81	483.42	485.67	487.78	489.40	491.05	491.71	492.01	493.25	494.17	496.60	504.21	513.87	526.18	***530.00***	***535.00***	Common Shs Outst'g D	***550.00***
13.1	10.0	13.4	11.9	13.8	14.5	15.9	15.8	15.2	19.3	18.0	21.4	19.6	17.1	21.1	16.2	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	***18.0***
.79	.67	.85	.75	.88	.81	.84	.80	.80	.97	.97	1.14	1.01	.92	1.23	.93			Relative P/E Ratio	***1.00***
4.2%	5.5%	4.9%	5.0%	4.6%	4.2%	3.8%	3.8%	3.5%	3.4%	3.6%	3.1%	3.3%	3.5%	3.3%	4.5%			Avg Ann'l Div'd Yield	***3.3%***
17020	16453	16380	15425	16196	15561	14919	16792	19640	18982	***20550***	***21500***	Revenues ($mill)	***23500***
1634.0	1763.4	2073.6	1783.2	1923.8	2019.0	2200.1	2448.1	2307.2	2757.2	***2970***	***3210***	Net Profit ($mill)	***3990***
37.8%	35.1%	26.8%	33.7%	5.8%	.7%	1.9%	4.6%	NMF	***21.0%***	***21.0%***	***21.0%***	Income Tax Rate	***21.0%***
9.0%	11.0%	8.0%	8.0%	10.7%	12.7%	9.7%	7.8%	7.0%	7.0%	***7.0%***	***6.5%***	AFUDC % to Net Profit	***5.0%***
49.0%	49.8%	50.0%	51.5%	53.2%	56.1%	58.5%	58.3%	58.5%	58.2%	***58.0%***	***58.0%***	Long-Term Debt Ratio	***57.5%***
51.0%	50.2%	50.0%	48.5%	46.8%	43.9%	41.5%	41.7%	42.0%	42.0%	***42.0%***	***42.0%***	Common Equity Ratio	***42.5%***
33001	35633	34775	37707	40677	44759	49537	53734	57520	***62950***	***68900***	***70730***	Total Capital ($mill)	***75900***
44117	46133	45639	50262	55099	60138	63902	66001	71283	***74600***	***78000***	***81250***	Net Plant ($mill)	***87300***
6.3%	6.1%	7.2%	5.9%	5.9%	5.6%	5.6%	5.6%	4.0%	***4.5%***	***4.5%***	***4.5%***	Return on Total Cap'l	***5.0%***
9.7%	9.9%	11.9%	9.8%	10.1%	10.3%	10.7%	11.1%	9.7%	***10.0%***	***10.0%***	***10.0%***	Return on Shr. Equity	***11.0%***
9.7%	9.9%	11.9%	9.8%	10.1%	10.3%	10.7%	11.1%	9.7%	***10.0%***	***10.0%***	***10.0%***	Return on Com Equity	***11.0%***
3.8%	3.9%	5.5%	3.2%	3.5%	3.4%	3.8%	4.3%	2.9%	***4.0%***	***4.0%***	***4.0%***	Retained to Com Eq	***4.5%***
61%	60%	54%	67%	65%	67%	65%	61%	70%	***63%***	***63%***	***63%***	All Div'ds to Net Prof	***61%***

CAPITAL STRUCTURE as of 12/31/23
Total Debt $40483 mill. **Due in 5 Yrs** $12886 mill.
LT Debt $37653 mill. **LT Interest** $1400 mill.

Leases, Uncapitalized Annual rentals $119.6 mill.

Pfd Stock None

Common Stock 526,184,585 shs.

MARKET CAP: $42.5 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2020	2021	2022
% Change Retail Sales (KWH)	- -	+3.0	- -
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.0	NA	NA
Fixed Charge Cov. (%)	243	272	285

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	.5%	-.5%	*3.0%*
"Cash Flow"	5.0%	5.5%	*5.5%*
Earnings	5.0%	4.0%	*6.5%*
Dividends	5.0%	5.0%	*5.5%*
Book Value	3.5%	3.5%	*6.0%*

QUARTERLY REVENUES ($ mill.) E

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	4281	3826	4623	4061	16792
2022	4593	4640	5526	4881	19640
2023	4690	4373	5342	4577	18982
2024	***4820***	***4750***	***5375***	***5605***	***20550***
2025	***4950***	***4850***	***5800***	***5900***	***21500***

EARNINGS PER SHARE A

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	1.15	1.15	1.59	1.07	4.96
2022	1.22	1.20	1.62	1.05	5.09
2023	1.11	1.13	1.77	1.23	5.24
2024	***1.35***	***1.35***	***1.75***	***1.15***	***5.60***
2025	***1.50***	***1.40***	***1.80***	***1.30***	***6.00***

QUARTERLY DIVIDENDS PAID B ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.70	.70	.70	.74	2.84
2021	.74	.74	.74	.78	3.00
2022	.78	.78	.78	.83	3.17
2023	.83	.83	.83	.88	3.37
2024					

BUSINESS: American Electric Power Company Inc. (AEP), through 10 operating utilities, serves 5.5 million customers in Arkansas, Kentucky, Indiana, Louisiana, Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia, & West Virginia. Has a transmission subsidiary. Electric revenue breakdown: residential, 43%; commercial, 23%; industrial, 18%; wholesale, 10%; other, 6%. Sold commercial barge operation in '15. Generating sources not available. Fuel costs: 33% of revenues. '22 reported depreciation rates (utility): 2.6%-12.5%. Has approximately 16,700 employees. Interim Chief Executive Officer: Benjamin G.S. Fowke III. Incorporated: New York. Address: 1 Riverside Plaza, Columbus, Ohio 43215-2373. Telephone: 614-716-1000. Internet: www.aep.com.

We think American Electric Power will post strong earnings growth in 2024 and 2025. The company has a number of rate cases pending, and will likely continue to benefit from rate relief. AEP is also well positioned to take advantage of increased investment in its transmission business, and volume growth over that interim. Our 2024 bottom-line estimate, which is staying put at $5.60 per share, is right near the midpoint of AEP's targeted range of $5.53-$5.73, which management unveiled upon reporting fourth-quarter results in late February. We look for comparable growth, to $6.00, in 2025. The utility remains committed to its long-term growth rate target of 6%-7%.

The company was granted a partial rate increase in Kentucky, and is trying to reach settlements in its cases in Indiana & Michigan. In January, Kentucky Power received approval for a 5.66% residential rate increase. The utility was also granted an order for the securitization portion of its pending rate case. Meanwhile, Indiana & Michigan requested hikes in 2023, based on a 10.5% ROE. The utility expects rates to go into effect by this year.

A well-known billionaire investor activist is looking to shake things up at the utility company. In February, activist investor and founder of Icahn Capital L.P., Carl Icahn took a $120 million stake in American Electric Power. In turn, AEP recently entered into an agreement with Icahn Capital to appoint two new directors to its board. Hunter Gary, senior managing director, and Henry Linginfelter, former Vice President of Southern Company Gas have both joined the board effective immediately. The company also just replaced CEO Julie Sloat with interim chief executive Benjamin G.S. Fowke III until a permanent replacement is found.

These untimely shares are best suited for risk-averse, income-oriented investors. The dividend yield of this top-quality stock is above the high-paying industrywide average. Too, capital appreciation potential over both the 18-month and 3- to 5-year time frames is attractive compared to most of its peers. Indeed, we look for the stock to trade around $115-$145 by 2027-2029.

Zachary J. Hodgkinson *March 8, 2024*

(A) Diluted EPS. Excl. nonrec. gains (losses): '08, 40¢; '10, (7¢); '11, 89¢; '12, (38¢); '13, (14¢); '16, ($2.99); '17, 26¢; '19, (20¢); gains (loss) from disc. ops.: '06, 2¢; '08, 3¢; '15, 58¢; '16, (1¢); '22, (58¢); '23, (34¢). Next earnings report due late April. **(B)** Div'ds paid early Mar., June, Sept., & Dec. ■ Div'd reinvestment plan avail. † Shareholder invest. plan avail. **(C)** Incl. intang. In '22: $52.5 million **(D)** In mill. **(E)** Rev. may not sum due to rounding.

Company's Financial Strength	A+
Stock's Price Stability	95
Price Growth Persistence	55
Earnings Predictability	95

ALLETE NYSE-ALE

RECENT PRICE **56.22** | P/E RATIO **15.4** (Trailing: 13.1 / Median: 19.0) | RELATIVE P/E RATIO **0.89** | DIV'D YLD **5.0%** | **VALUE LINE**

TIMELINESS 3 Lowered 2/16/24
SAFETY 2 New 10/1/04
TECHNICAL 3 Raised 2/2/24
BETA .95 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$46-$86	$66 (15%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	100	(+80%)	*19%*
Low	75	(+35%)	*12%*

Institutional Decisions

	1Q2023	2Q2023	3Q2023
to Buy	137	159	145
to Sell	130	123	141
Hld's(000)	43928	43650	44027

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High:	54.1	58.0	59.7	66.9	81.2	82.8	88.6	84.7	73.1	68.6	66.7	63.7							
Low:	41.4	44.2	45.3	48.3	61.6	66.6	72.5	48.2	56.8	47.8	49.3	56.0							

Target Price Range 2027 | 2028 | 2029

LEGENDS
27.00 x Dividends p sh
Relative Price Strength
Options: Yes
Shaded area indicates recession

% TOT. RETURN 1/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-1.1	3.7
3 yr.	5.4	20.4
5 yr.	-8.4	63.1

Percent shares traded

© VALUE LINE PUB. LLC	27-29
Revenues per sh	*32.80*
"Cash Flow" per sh	*9.65*
Earnings per sh [A]	*5.15*
Div'd Decl'd per sh [B] ■ †	*3.25*
Cap'l Spending per sh	*7.25*
Book Value per sh [C]	*54.00*
Common Shs Outst'g [D]	*61.00*
Avg Ann'l P/E Ratio	*17.0*
Relative P/E Ratio	*.95*
Avg Ann'l Div'd Yield	*3.7%*
Revenues ($mill)	*2000*
Net Profit ($mill)	*315*
Income Tax Rate	*NMF*
AFUDC % to Net Profit	*1.0%*
Long-Term Debt Ratio	*40.5%*
Common Equity Ratio	*59.5%*
Total Capital ($mill)	*5550*
Net Plant ($mill)	*5675*
Return on Total Cap'l	*6.0%*
Return on Shr. Equity	*9.0%*
Return on Com Equity [E]	*9.0%*
Retained to Com Eq	*3.5%*
All Div'ds to Net Prof	*60%*

Bold figures are Value Line estimates

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
	24.57	21.57	25.34	24.75	24.40	24.60	24.77	30.27	27.01	27.78	29.10	23.99	22.44	26.68	28.04	32.65	*28.80*	*29.65*
	4.23	3.57	4.35	4.91	5.01	5.35	5.68	6.79	7.08	6.59	7.37	7.24	7.52	7.54	7.70	8.67	*8.30*	*8.80*
	2.82	1.89	2.19	2.65	2.58	2.63	2.90	3.38	3.14	3.13	3.38	3.33	3.35	3.23	3.38	4.30	*3.90*	*4.25*
	1.72	1.76	1.76	1.78	1.84	1.90	1.96	2.02	2.08	2.14	2.24	2.35	2.47	2.52	2.60	2.71	*2.82*	*2.93*
	9.24	9.05	6.95	6.38	10.30	7.93	12.48	5.84	5.35	4.08	6.07	11.55	13.78	8.90	3.64	4.92	*5.95*	*6.20*
	25.37	26.41	27.26	28.78	30.48	32.44	35.06	37.07	38.17	40.47	41.86	43.17	44.04	45.36	47.06	48.78	*51.25*	*52.55*
	32.60	35.20	35.80	37.50	39.40	41.40	45.90	49.10	49.60	51.10	51.50	51.70	52.10	53.20	56.01	57.58	*59.00*	*59.00*
	13.9	16.1	16.0	14.7	15.9	18.6	17.2	15.1	18.6	23.0	22.2	24.7	18.3	20.6	18.1	13.8		
	.84	1.07	1.02	.92	1.01	1.05	.91	.76	.98	1.16	1.20	1.32	.94	1.11	1.05	.79		
	4.4%	5.8%	5.0%	4.6%	4.5%	3.9%	3.9%	4.0%	3.6%	3.0%	3.0%	2.9%	4.0%	3.8%	4.4%	4.9%		
	1136.8	1486.4	1339.7	1419.3	1498.6	1240.5	1169.1	1419.2	1570.7	1879.8	*1700*	*1750*						
	124.8	163.4	155.3	159.2	174.1	172.4	174.2	169.2	189.3	247.6	*230*	*250*						
	22.6%	19.4%	11.3%	14.8%	- -	- -	- -	NMF	NMF	NMF	*NMF*	*NMF*						
	6.3%	2.0%	1.4%	.8%	.7%	1.3%	1.1%	1.5%	1.4%	1.3%	*2.0%*	*1.5%*						
	44.2%	46.3%	42.0%	41.0%	39.9%	38.6%	41.0%	42.2%	40.8%	40.3%	*39.5%*	*40.0%*						
	55.8%	53.7%	58.0%	59.0%	60.1%	61.4%	59.0%	57.8%	59.6%	53.8%	*60.5%*	*60.0%*						
	2882.2	3388.9	3263.4	3507.4	3584.3	3632.8	3887.8	4176.3	4457.5	4682.8	*4900*	*5150*						
	3286.4	3669.1	3741.2	3822.4	3904.4	4377.0	4840.8	5100.2	5004.0	5013.0	*5450*	*5500*						
	5.2%	5.8%	5.8%	5.5%	5.8%	5.6%	5.3%	4.8%	5.6%	6.5%	*5.5%*	*5.5%*						
	7.8%	9.0%	8.2%	7.7%	8.1%	7.7%	7.6%	7.0%	7.5%	8.8%	*8.0%*	*8.0%*						
	7.8%	9.0%	8.2%	7.7%	8.1%	7.7%	7.6%	7.0%	7.5%	8.8%	*8.0%*	*8.0%*						
	2.5%	3.6%	2.8%	2.4%	2.7%	2.3%	2.0%	1.5%	2.5%	3.5%	*2.5%*	*2.5%*						
	67%	60%	66%	68%	66%	70%	74%	78%	76%	70%	*69%*	*69%*						

CAPITAL STRUCTURE as of 12/31/23
Total Debt $1799.4 mill. **Due in 5 Yrs** $390.7 mill.
LT Debt $1679.9 mill. **LT Interest** $65.9 mill.
(LT interest earned: 2.7x)

Leases, Uncapitalized Annual rentals $5.1 mill.

Pension Assets-12/22 $745.7 mill.
Oblig $911.7 mill.

Pfd Stock None

Common Stock 57,578,222 shs.

MARKET CAP: $3.2 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2020	2021	2022
% Change Retail Sales (KWH)	-12.0	+11.5	+4.7
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Winter (Mw) [F]	1588	1557	1556
Annual Load Factor (%)	NA	NA	NA
% Change Customers (avg.)	NA	NA	NA
Fixed Charge Cov. (%)	230	219	220

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	- -	-3.0%	*3.0%*
"Cash Flow"	4.5%	2.0%	*4.5%*
Earnings	3.0%	.5%	*6.0%*
Dividends	3.5%	3.5%	*3.5%*
Book Value	4.5%	3.0%	*3.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2021	339.2	335.6	345.4	399.0	1419.2
2022	383.5	373.1	388.3	425.8	1570.7
2023	564.9	533.4	378.8	402.7	1879.8
2024	*425*	*400*	*445*	*430*	*1700*
2025	*430*	*420*	*450*	*450*	*1750*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2021	.99	.53	.53	1.18	3.23
2022	1.24	.67	.59	.90	3.38
2023	1.02	.90	1.49	.89	4.30
2024	*1.05*	*.80*	*.90*	*1.15*	*3.90*
2025	*1.15*	*.95*	*.95*	*1.20*	*4.25*

QUARTERLY DIVIDENDS PAID [B] ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.6175	.6175	.6175	.6175	2.47
2021	.63	.63	.63	.63	2.52
2022	.65	.65	.65	.65	2.60
2023	.6775	.6775	.6775	.6775	2.71
2024	.7050				

BUSINESS: ALLETE, Inc. is the parent of Minnesota Power, which supplies electricity to 146,000 customers in northeastern MN, & Superior Water, Light & Power in northwestern WI. Electric rev. breakdown: taconite mining/processing, 26%; wholesale, 14%; residential, 13%; commercial 13% paper/wood products, 9%; other industrial, 8%; other, 17%. ALLETE Clean Energy (ACE) owns renewable energy projects. Acq'd U.S. Water Services 2/15; sold it 3/19. Generating sources: coal, 28%; wind, 10%; other, 4%; purchased, 58%. Fuel costs: 40% of revs. '22 deprec. rate: 3.2%. Has 1,400 employees. Chairman, President & CEO: Bethany M. Owen. Inc.: Minnesota. Address: 30 West Superior St., Duluth, MN 55802-2093. Tel.: 218-279-5000. Internet: www.allete.com.

ALLETE's primary utility subsidiary has a rate case pending. Minnesota Power filed for a rate increase of $89 million, based on a 10.3% return on equity and a 53% common-equity ratio. An interim hike of $64 million took effect at the start of 2024. Currently, the utility is earning an ROE of 9.65%. Final rates are expected to be implemented by mid- to late 2025. Too, the company's utility in Wisconsin is planning to file a rate application this year. The Public Service Commission of Wisconsin last approved a rate increase of $3.3 million, and a return on equity of 10% in January, 2023.

We have lowered our 2024 earnings estimate by $0.15 a share. ALLETE will not obtain rate relief this year, and higher operating and maintenance expenses will likely lead to a modest profit decline. Our 2024 estimate of $3.90 is on the high-end of the company's targeted range of $3.60-$3.90 per share, which was issued in mid-February. The utility should be in a better position next year. We think rate relief in Minnesota and Wisconsin, along with an improved operating environment will produce share earnings of $4.25 in 2025. We also think that the company will earn $5.15 per share by 2027-2029. The company increased its five-year capital expenditure plan by $1.0 billion, to $4.3 billion, which will benefit renewable and transmission projects, and drive long-term profit growth. Indeed, ALLETE looks for its 5%-7% earnings and dividend growth targets to be achieved in 2025, based off original 2023 guidance.

The board of directors raised the dividend in the first quarter. The increase was $0.028 a share (4.1%) quarterly, marking 74 consecutive years of payouts to shareholders. The hike was below the 5%-7% range because the payout ratio is high.

Income-oriented accounts should take a closer look here. The stock has an above-average dividend yield, even for a utility. Too, capital appreciation potential for the 18-month and 3- to 5-year time frames is superior to that of most utilities. Indeed, we look for the stock to trade around $75-$100 by 2027-2029. What's more, ALLETE continues to hold a high score for Price Stability and is ranked Above Average (2) for Safety.

Zachary J. Hodgkinson *March 8, 2024*

(A) Diluted EPS. Excl. nonrec. gains (loss): '15, (46¢); '17, 25¢; '19, 26¢; '19 EPS don't sum due to rounding. Next earnings report due early May. **(B)** Div'ds historically paid in early Mar., June, Sept. and Dec. ■ Div'd reinvest. plan avail. † Shareholder invest. plan avail. **(C)** Incl. deferred charges. In '22: $9.60/sh. **(D)** In mill. **(E)** Rate base: Orig. cost depr. Rate all'd in MN on com. eq. in '18: 9.25%; earned on avg. com. eq., '21: 7.2%. Regul. Climate: Avg. **(F)** Summer peak in '21.

Company's Financial Strength	B++
Stock's Price Stability	85
Price Growth Persistence	35
Earnings Predictability	90

CMS ENERGY CORP. NYSE-CMS

RECENT PRICE **56.60** | P/E RATIO **17.4** (Trailing: 18.8 Median: 21.0) | RELATIVE P/E RATIO **1.00** | DIV'D YLD **3.6%** | **VALUE LINE**

TIMELINESS 3 Raised 2/16/24
SAFETY 2 Raised 3/8/24
TECHNICAL 4 Raised 2/23/24
BETA .85 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$49-$80	$65 (15%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	85	(+50%)	*13%*
Low	55	(-5%)	*3%*

Institutional Decisions

	1Q2023	2Q2023	3Q2023
to Buy	303	297	272
to Sell	252	262	309
Hld's(000)	274530	284222	280935

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High:	30.0	36.9	38.7	46.3	50.8	53.8	65.3	69.2	65.8	73.8	65.7	59.9						
Low:	24.6	26.0	31.2	35.0	41.1	40.5	48.0	46.0	53.2	52.4	49.9	55.1						

LEGENDS
28.00 x Dividends p sh divided by Interest Rate
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2027 | 2028 | 2029

% TOT. RETURN 1/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-6.5	3.7
3 yr.	10.0	20.4
5 yr.	24.8	63.1

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
	30.13	27.23	25.77	25.59	23.90	24.68	26.09	23.29	22.92	23.37	24.25	24.11	23.12	25.29	29.51	25.35	***28.80***	***29.45***	Revenues per sh	*31.25*
	3.88	3.47	3.70	3.65	3.82	4.06	4.22	4.59	4.88	5.29	5.61	5.89	6.24	6.42	6.69	6.98	***7.30***	***7.65***	"Cash Flow" per sh	*8.50*
	1.23	.93	1.33	1.45	1.53	1.66	1.74	1.89	1.98	2.17	2.32	2.39	2.64	2.58	2.84	3.01	***3.25***	***3.45***	Earnings per sh [A]	*3.75*
	.36	.50	.66	.84	.96	1.02	1.08	1.16	1.24	1.33	1.43	1.53	1.63	1.74	1.84	1.95	***2.06***	***2.16***	Div'd Decl'd per sh [B] ■	*2.30*
	3.50	3.59	3.29	3.47	4.65	4.98	5.73	5.64	5.99	5.91	7.32	7.41	8.02	7.16	8.15	8.18	***9.00***	***9.80***	Cap'l Spending per sh	*9.75*
	10.88	11.42	11.19	11.92	12.09	12.98	13.34	14.21	15.23	15.77	16.78	17.68	19.02	22.11	23.32	24.86	***26.35***	***28.00***	Book Value per sh [C]	*29.25*
	226.41	227.89	249.60	254.10	264.10	266.10	275.20	277.16	279.21	281.65	283.37	283.86	288.94	289.76	291.27	294.40	***295.00***	***295.50***	Common Shs Outst'g [D]	*300.00*
	10.9	13.6	12.5	13.6	15.1	16.3	17.3	18.3	20.9	21.3	20.3	24.3	23.3	23.6	22.9	19.6			Avg Ann'l P/E Ratio	*19.0*
	.66	.91	.80	.85	.96	.92	.91	.92	1.10	1.07	1.10	1.29	1.20	1.28	1.32	1.10			Relative P/E Ratio	*1.05*
	2.7%	4.0%	4.0%	4.3%	4.2%	3.8%	3.6%	3.4%	3.0%	2.9%	3.0%	2.6%	2.6%	2.9%	2.8%	3.3%			Avg Ann'l Div'd Yield	*3.3%*
							7179.0	6456.0	6399.0	6583.0	6873.0	6845.0	6680.0	7329.0	8596.0	7462.0	***8500***	***8700***	Revenues ($mill)	*9350*
							479.0	525.0	553.0	610.0	659.0	682.0	757.0	751.0	833.0	886.0	***970***	***1030***	Net Profit ($mill)	*1135*
							34.3%	34.0%	33.1%	31.2%	14.9%	17.7%	15.0%	11.5%	10.3%	15.4%	***15.5%***	***15.5%***	Income Tax Rate	*15.5%*
							2.3%	2.7%	3.1%	1.1%	1.4%	2.1%	1.1%	1.5%	1.4%	1.4%	***1.5%***	***1.5%***	AFUDC % to Net Profit	*1.0%*
							68.7%	68.3%	67.1%	67.3%	69.0%	70.4%	71.2%	64.5%	65.3%	65.9%	***65.5%***	***65.0%***	Long-Term Debt Ratio	*63.5%*
							31.0%	31.4%	32.6%	32.4%	30.7%	29.4%	28.6%	34.2%	33.6%	33.1%	***34.5%***	***35.0%***	Common Equity Ratio	*36.5%*
							11846	12534	13040	13692	15476	17082	19223	18760	20205	22114	***23000***	***23700***	Total Capital ($mill)	*24400*
							13412	14705	15715	16761	18126	18926	21039	22352	22713	25072	***27650***	***29300***	Net Plant ($mill)	*32400*
							5.7%	5.7%	5.8%	5.9%	5.6%	5.3%	5.2%	5.3%	5.4%	5.4%	***5.5%***	***5.5%***	Return on Total Cap'l	*6.0%*
							12.9%	13.2%	12.9%	13.6%	13.8%	13.5%	13.7%	11.3%	11.9%	11.7%	***12.0%***	***12.0%***	Return on Shr. Equity	*12.5%*
							13.0%	13.3%	13.0%	13.7%	13.8%	13.6%	13.7%	11.6%	12.1%	12.0%	***12.5%***	***12.5%***	Return on Com Equity [E]	*13.0%*
							5.0%	5.2%	4.8%	5.2%	5.3%	4.9%	5.3%	3.8%	4.3%	4.2%	***4.5%***	***4.5%***	Retained to Com Eq	*5.0%*
							62%	61%	63%	62%	62%	64%	62%	68%	65%	65%	***64%***	***63%***	All Div'ds to Net Prof	*62%*

Bold figures are Value Line estimates

CAPITAL STRUCTURE as of 12/31/23
Total Debt $15550 mill. **Due in 5 Yrs** $2771 mill.
LT Debt $14570 mill. **LT Interest** $649 mill.
Incl. $63 mill. finance leases.
Leases, Uncapitalized Annual rentals $5 mill.
Pension Assets-12/23 $3004 mill.
Oblig $2195 mill.
Pfd Stock $224 mill. **Pfd Div'd** $10 mill.
Incl. 373,148 shs. $4.50 $100 par, cum., callable at $110.00; 9,200,000 shs. 4.2%, $25 par, cum.
Common Stock 294,443,620 shs.
as of 1/12/24
MARKET CAP: $16.7 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	+2.4	+3.0	-1.0
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	8.46	8.78	8.90
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	7951	8061	8067
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.0	+1.0	+1.0
Fixed Charge Cov. (%)	223	226	244

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	1.0%	2.5%	*2.5%*
"Cash Flow"	5.5%	5.0%	*4.0%*
Earnings	6.0%	5.5%	*5.0%*
Dividends	7.0%	6.5%	*4.0%*
Book Value	6.5%	8.0%	*4.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	2013	1558	1725	2033	7329
2022	2374	1920	2024	2278	8596
2023	2284	1555	1673	1950	7462
2024	***2250***	***1850***	***2050***	***2350***	***8500***
2025	***2300***	***1900***	***2100***	***2400***	***8700***

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	1.09	.55	.54	.40	2.58
2022	1.20	.50	.56	.58	2.84
2023	.69	.67	.60	1.05	3.01
2024	***.75***	***.70***	***.75***	***1.05***	***3.25***
2025	***.80***	***.75***	***.80***	***1.10***	***3.45***

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec. 31	Full Year
2020	.4075	.4075	.4075	.4075	1.63
2021	.435	.435	.435	.435	1.74
2022	.46	.46	.46	.46	1.84
2023	.4875	.4875	.4875	.4875	1.95
2024	.515				

BUSINESS: CMS Energy Corporation is a holding company for Consumers Energy, which supplies electricity and gas to lower Michigan (excluding Detroit). Has 1.9 million electric, 1.8 million gas customers. Has 2,016 megawatts of nonregulated generating capacity. Sold EnerBank in '21. Electric revenue breakdown: residential, 47%; commercial, 33%; industrial, 14%; other, 6%. Generating sources: coal, 20%; gas, 33%; renewables, 6%; purchased, 43%. Fuel costs: 37% of revenues. '23 depreciation rates: 3.8% electric, 2.8% gas, 7.8% other. Has 8,350 full-time employees. Chairman: John G. Russell. President & CEO: Garrick Rochow. Inc.: Michigan. Address: One Energy Plaza, Jackson, Michigan 49201. Telephone: 517-788-0550. Internet: www.cmsenergy.com.

CMS Energy registered mixed fourth-quarter results. The top line decreased more than 14% year over year, to $1.95 billion. Meanwhile, the bottom line from continuing operations increased sharply to $1.05 per share, versus $0.58 per share in the year-ago period. Overall, ongoing benefits from its rate-relief and cost-reducing efforts counterbalanced the impacts of unfavorable weather conditions. Full-year 2023 revenues fell 13%, but share earnings rose 6%, to $7.5 billion and $3.01, respectively. On an adjusted basis, the per-share profit clocked in at $3.11 (up 7.6%), which was on the high end of the earlier share-earnings guidance.

CMS Energy's utility subsidiary, Consumers, is making progress on rate cases. An order for the electric rate case was expected from the commission by March 1st. Meanwhile, a gas rate was filed in mid-December, with the company seeking a 10.25% return on equity and a 51.5% equity ratio. An order is anticipated by the end of the year. The company has a $17 billion utility investment plan, which should facilitate rate-base negotiations through 2028.

Share profits will likely advance in the 6%-8% range this year and next. Management's ongoing efforts to reduce costs and seek rate relief should keep the bottom line healthy.

The utility is focusing on clean-energy investments. In line with the new Michigan Energy Law, the company aims to meet the 60% renewable portfolio standard by 2035. Therefore, it intends to file an updated renewable energy plan in the second half of the year.

The board of directors increased the dividend in the first quarter. The new quarterly payment of $0.515 per share was made in February, marking a 5.6% raise annually.

Shares of CMS Energy are ranked to mirror the broader market averages in the year ahead. Also, the stock has below-average capital appreciation potential over the 2027-2029 horizon. Nevertheless, the company has a good record of stable operating performance and consistent dividend hikes, which may interest some income-seeking conservative accounts.

Emma Jalees *March 8, 2024*

(A) Diluted GAAP EPS. Excl. nonrec. gains (losses): '09, (7¢); '10, 3¢; '11, 12¢; '12, (14¢); '17, (53¢); gains (losses) on disc. ops.: '09, 8¢; '10, (8¢); '11, 1¢; '12, 3¢; '21, $2.08; '22, 1¢. Next earnings report due late April. **(B)** Div'ds historically paid late Feb., May, Aug., & Nov. ■ Div'd reinvestment plan avail. **(C)** Incl. intang. In '23: $8.52/sh. **(D)** In mill. **(E)** Rate base: Net orig. cost. Rate all'd on com. eq. in '22: 9.9% elec.; in '19: 9.9% gas; earned on avg. com. eq., '21: 13.2%. Regulatory Climate: Above Average.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	65
Earnings Predictability	90

DTE ENERGY CO. NYSE-DTE

RECENT PRICE **106.19** | P/E RATIO **14.3** (Trailing: 18.4 Median: 18.0) | RELATIVE P/E RATIO **0.82** | DIV'D YLD **3.8%** | **VALUE LINE**

TIMELINESS 3 Raised 2/23/24
SAFETY 2 Raised 12/21/12
TECHNICAL 3 Raised 2/2/24
BETA 1.00 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$91-$154 $123 (15%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	175	(+65%)	*16%*
Low	130	(+20%)	*9%*

Institutional Decisions

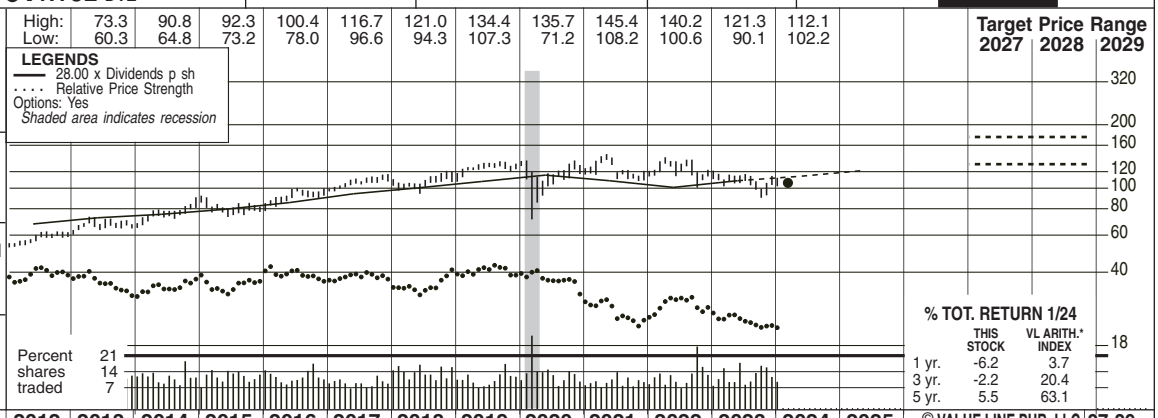
	1Q2023	2Q2023	3Q2023
to Buy	313	334	317
to Sell	325	284	324
Hld's(000)	154100	154545	158915

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
High:	73.3	90.8	92.3	100.4	116.7	121.0	134.4	135.7	145.4	140.2	121.3	112.1								
Low:	60.3	64.8	73.2	78.0	96.6	94.3	107.3	71.2	108.2	100.6	90.1	102.2								
	57.23	48.45	50.51	52.57	51.01	54.56	69.50	57.60	59.24	70.28	78.12	65.91	62.84	77.23	93.48	61.76	*72.25*	*75.45*	Revenues per sh	*82.50*
	8.26	9.38	9.78	9.57	9.77	10.13	11.85	9.44	10.60	11.77	12.58	12.97	14.70	11.94	12.66	14.54	*15.30*	*16.00*	"Cash Flow" per sh	*17.50*
	2.73	3.24	3.74	3.67	3.88	3.76	5.10	4.44	4.83	5.73	6.17	6.31	7.08	4.10	5.52	6.76	*6.80*	*7.20*	Earnings per sh [A]	*8.50*
	2.12	2.12	2.18	2.32	2.42	2.59	2.69	2.84	3.06	3.36	3.59	3.85	4.12	3.88	3.54	3.88	*4.08*	*4.34*	Div'd Decl'd per sh [B] ■	*4.83*
	8.42	6.26	6.49	8.77	10.56	10.59	11.58	11.26	11.40	12.54	14.91	15.59	19.91	19.47	16.42	17.02	*17.50*	*17.75*	Cap'l Spending per sh	*18.50*
	36.77	37.96	39.67	41.41	42.78	44.73	47.05	48.88	50.22	53.03	56.27	60.73	64.12	44.93	46.35	53.55	*55.95*	*58.40*	Book Value per sh [C]	*63.10*
	163.02	165.40	169.43	169.25	172.35	177.09	176.99	179.47	179.43	179.39	181.93	192.21	193.77	193.75	205.69	206.36	*205.50*	*205.50*	Common Shs Outst'g [D]	*206.00*
	14.8	10.4	12.3	13.5	14.9	17.9	14.9	18.1	19.0	18.6	17.4	19.9	16.3	30.0	22.4	16.1	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*18.0*
	.89	.69	.78	.85	.95	1.01	.78	.91	1.00	.94	.94	1.06	.84	1.62	1.30	.92			Relative P/E Ratio	*1.00*
	5.2%	6.3%	4.8%	4.7%	4.2%	3.8%	3.5%	3.5%	3.3%	3.2%	3.3%	3.1%	3.6%	3.2%	3.4%	3.8%			Avg Ann'l Div'd Yield	*3.5%*
	12301	10337	10630	12607	14212	12669	12177	14964	19228	12745	*14850*	*15500*	Revenues ($mill)	*17000*
	905.0	796.0	868.0	1029.0	1120.0	1169.0	1368.0	796.0	1135.4	1395.0	*1400*	*1480*	Net Profit ($mill)	*1750*
	28.5%	25.6%	24.5%	21.8%	8.1%	11.5%	10.9%	--	2.6%	4.8%	*5.0%*	*5.0%*	Income Tax Rate	*5.0%*
	4.1%	4.3%	3.6%	3.5%	3.8%	3.3%	3.4%	4.9%	4.0%	3.2%	*3.0%*	*3.0%*	AFUDC % to Net Profit	*3.0%*
	50.0%	50.2%	55.6%	56.2%	54.2%	57.7%	60.5%	62.5%	63.0%	61.2%	*61.5%*	*61.5%*	Long-Term Debt Ratio	*61.0%*
	50.0%	49.8%	44.4%	43.8%	45.8%	42.3%	39.5%	37.5%	37.0%	38.0%	*38.5%*	*38.5%*	Common Equity Ratio	*39.0%*
	16670	17607	20280	21697	22371	27607	31426	23236	25158	26282	*29000*	*30000*	Total Capital ($mill)	*32200*
	16820	18034	19730	20721	21650	25317	27969	26944	28767	28169	*31500*	*32250*	Net Plant ($mill)	*36600*
	6.6%	5.7%	5.3%	5.9%	6.1%	5.3%	5.4%	4.7%	4.4%	5.0%	*5.0%*	*5.0%*	Return on Total Cap'l	*6.0%*
	10.9%	9.1%	9.6%	10.8%	10.9%	10.0%	11.0%	9.1%	13.0%	11.0%	*11.5%*	*11.5%*	Return on Shr. Equity	*12.5%*
	10.9%	9.1%	9.6%	10.8%	10.9%	10.0%	11.0%	9.1%	13.0%	11.0%	*11.5%*	*11.5%*	Return on Com Equity [E]	*12.5%*
	5.2%	3.4%	3.7%	4.6%	4.9%	4.1%	4.9%	.1%	2.0%	4.0%	*4.5%*	*4.5%*	Retained to Com Eq	*4.5%*
	52%	63%	61%	58%	55%	59%	56%	99%	76%	60%	*60%*	*60%*	All Div'ds to Net Prof	*62%*

% TOT. RETURN 1/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-6.2	3.7
3 yr.	-2.2	20.4
5 yr.	5.5	63.1

Target Price Range 2027 2028 2029



CAPITAL STRUCTURE as of 12/31/23
Total Debt $19562 mill. **Due in 5 Yrs** $6481 mill.
LT Debt $17420 mill. **LT Interest** $514 mill.
Incl. $209 mill. securitization bonds. Incl. $19 mill. finance leases.
(LT interest earned: 1.7x)
Leases, Uncapitalized Annual rentals $16 mill.

Pension Assets-12/22 $5507 mill.
Oblig $5857 mill.
Pfd Stock None
Common Stock 206,452,985 shs.

MARKET CAP: $21.9 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2020	2021	2022
% Change Retail Sales (KWH)	-3.4	+2.1	-1.4
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NMF	NMF	NMF
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	268	233	264

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	3.0%	2.5%	*5.0%*
"Cash Flow"	3.0%	4.5%	*4.5%*
Earnings	4.0%	2.5%	*4.5%*
Dividends	5.5%	5.5%	*3.0%*
Book Value	3.0%	1.5%	*1.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	3581	3021	3715	4647	14964
2022	4577	4924	5251	4476	19228
2023	3779	2684	2888	3394	12745
2024	*4100*	*3600*	*3750*	*3400*	*14850*
2025	*4250*	*3750*	*3850*	*3650*	*15500*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	1.65	.60	.30	1.55	4.10
2022	2.03	.19	1.99	1.31	5.52
2023	2.16	.97	1.61	2.02	6.76
2024	*2.20*	*1.30*	*1.90*	*1.40*	*6.80*
2025	*2.40*	*1.30*	*2.00*	*1.50*	*7.20*

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	1.0125	1.0125	1.0125	1.0125	4.05
2021	.9225	.9225	.9225	.825	3.59
2022	.885	.885	.885	.885	3.54
2023	.9525	.9525	.9525	1.02	3.88
2024	1.02				

BUSINESS: DTE Energy Company is a holding company for DTE Electric (formerly Detroit Edison), which supplies electricity in Detroit and a 7,600-square-mile area in southeastern Michigan, and DTE Gas (formerly Michigan Consolidated Gas). Customers: 2.2 mill. electric, 1.3 mill. gas. Has various nonutility operations. Electric revenue breakdown: residential, 50%; commercial, 33%; industrial, 11%; other, 6%. Generating sources: coal, 67%; nuclear, 17%; gas, 1%; purchased, 15%. Fuel costs: 62% of revenues. '22 reported deprec. rates: 4.2% electric, 2.9% gas. Has 10,600 employees. Chairman, President & CEO: Jerry Norcia. Incorporated: Michigan. Address: One Energy Plaza, Detroit, Michigan 48226-1279. Tel.: 313-235-4000. Internet: www.dteenergy.com.

DTE Energy's electric utility subsidiary received a rate increase. Indeed, the Michigan Public Service Commission agreed to a $368 million hike, a near $6.51 monthly increase for typical residential customers. Note, however, the company recently reduced its annual fuel costs by approximately $300 million, which should reduce average electric bills by about $5 a month. DTE Electric initially requested a $622 million hike, based on a return on equity of 10.25%. The order was reasonably constructive compared to the 2022 case, when Michigan regulators denied more than 90% of the initial $388 million request. The approved rates went into effect on December 15, 2023.

We estimate a slight earnings increase this year. While the comparison is difficult due to weather conditions, the aforementioned rate increase should have a modest effect on full-year 2024 results. Accordingly, we raised our share-earnings projection by $0.10. Our profit estimate stands on the high-end of DTE Energy's targeted range of $6.54-$6.83, and within the company's 6%-8% long term earnings growth forecast based off original 2023 guidance.

We look for a sharper earnings increase in 2025. The utility is well positioned to benefit from its grid investments, which will enhance tree trimming, improve maintenance and infrastructure, as well as provide over $2.5 billion in future cost savings. Too, DTE Energy should be able to pass on the higher costs associated with the challenging macroeconomic environment to the consumer, through rate cases and infrastructure mechanisms over that interim. As a result, we are introducing our 2025 bottom-line estimate of $7.20 a share. We also think that the company will earn $8.50 per share and trade around $125-$170 by 2027-2029.

Conservative, long-term total-return investors may want to take a look at this issue. These shares hold a high mark for Price Stability, and are ranked Above Average (2) for Safety. DTE Energy stock has a dividend yield that is about average, by utility standards. Nonetheless, given decent 3- to 5-year appreciation potential, total return prospects look good at this price.

Zachary J. Hodgkinson *March 8, 2024*

(A) Diluted EPS. Excl. nonrec. gains (loss): '08, 50¢; '11, 51¢; '15, (39¢); '17, 59¢; gains (losses) on discontinued operations: '08, 13¢; '12, (33¢); '21, 57¢. Next earnings report due late April. **(B)** Div'ds paid mid-Jan., Apr., July & Oct. ■ Div'd reinvestment plan available. **(C)** Incl. intang. In '22: $29.20/sh. **(D)** In mill. **(E)** Rate base: Net orig. cost. Rate allowed on common equity in '20: 9.9% elec.; in '22: 9.9% gas; earned on avg. com. eq., '21: 7.6%. Regulatory Climate: Above Average.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	45
Earnings Predictability	70

ENTERGY CORP. NYSE-ETR

RECENT PRICE **99.95** | P/E RATIO **9.8** (Trailing: 9.0 Median: 14.0) | RELATIVE P/E RATIO **0.56** | DIV'D YLD **4.5%** | **VALUE LINE**

TIMELINESS 3 Lowered 3/8/24
SAFETY 2 Raised 12/13/19
TECHNICAL 4 Lowered 3/8/24
BETA .95 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$84-$129	$107 (5%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	175	(+75%)	*18%*
Low	115	(+15%)	*8%*

Institutional Decisions

	1Q2023	2Q2023	3Q2023
to Buy	367	405	402
to Sell	287	270	304
Hld's(000)	184354	181973	184676

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High:	72.6	92.0	90.3	82.1	87.9	90.8	122.1	135.5	115.0	126.8	111.9	104.9						
Low:	60.2	60.4	61.3	65.4	69.6	71.9	83.2	75.2	85.8	94.9	87.1	96.1						

LEGENDS
27.00 x Dividends p sh divided by Interest Rate
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2027 2028 2029

% TOT. RETURN 1/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-3.8	3.7
3 yr.	17.6	20.4
5 yr.	34.0	63.1

Percent shares traded

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
69.15	56.82	64.27	63.67	57.94	63.86	69.71	64.54	60.55	61.35	58.23	54.63	50.51	57.95	65.18	57.07	***57.80***	***60.80***	Revenues per sh	***69.90***
12.89	13.29	16.54	17.53	15.98	16.25	17.68	17.71	18.72	16.70	16.50	17.19	18.21	17.90	15.51	21.53	***17.45***	***18.40***	"Cash Flow" per sh	***21.35***
6.20	6.30	6.66	7.55	6.02	4.96	5.77	5.81	6.88	5.19	5.88	6.30	6.90	6.87	5.37	11.10	***6.45***	***6.85***	Earnings per sh A	***8.05***
3.00	3.00	3.24	3.32	3.32	3.32	3.32	3.34	3.42	3.50	3.58	3.66	3.74	3.86	4.10	4.34	***4.56***	***4.70***	Div'd Decl'd per sh B ■ †	***5.00***
13.92	12.99	13.33	15.21	18.18	15.73	14.82	16.79	17.28	22.07	22.45	21.72	24.52	30.86	25.04	20.86	***21.00***	***22.00***	Cap'l Spending per sh	***19.75***
42.07	45.54	47.53	50.81	51.73	54.00	55.83	51.89	45.12	44.28	46.78	51.34	54.56	57.42	61.40	68.70	***70.65***	***73.65***	Book Value per sh C	***84.65***
189.36	189.12	178.75	176.36	177.81	178.37	179.24	178.39	179.13	180.52	189.06	199.15	200.24	202.65	211.18	212.85	***218.00***	***222.00***	Common Shs Outst'g D	***230.00***
16.6	12.0	11.6	9.1	11.2	13.2	12.9	12.5	10.9	15.0	13.8	16.5	15.3	15.0	21.1	9.1	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	***18.0***
1.00	.80	.74	.57	.71	.74	.68	.63	.57	.75	.75	.88	.79	.81	1.22	.51			Relative P/E Ratio	***1.00***
2.9%	4.0%	4.2%	4.9%	4.9%	5.1%	4.5%	4.6%	4.6%	4.5%	4.4%	3.5%	3.6%	3.7%	3.6%	4.3%			Avg Ann'l Div'd Yield	***3.7%***
12495	11513	10846	11074	11009	10879	10114	11743	13764	12147	***12600***	***13500***	Revenues ($mill)	***16070***
1060.0	1061.2	1249.8	950.7	1092.1	1258.2	1406.7	1402.8	1103.2	2356.5	***1405***	***1520***	Net Profit ($mill)	***1850***
37.8%	2.2%	11.3%	1.8%	--	--	--	16.1%	16.1%	16.1%	***23.0%***	***23.0%***	Income Tax Rate	***23.0%***
9.3%	7.4%	8.1%	14.7%	17.5%	16.7%	12.2%	7.1%	2.5%	1.7%	***2.0%***	***2.0%***	AFUDC % to Net Profit	***2.0%***
54.9%	57.8%	63.6%	63.6%	63.2%	62.0%	65.5%	67.6%	64.2%	60.8%	***61.0%***	***61.0%***	Long-Term Debt Ratio	***61.0%***
43.8%	40.8%	35.5%	35.5%	35.9%	37.1%	33.7%	31.7%	35.2%	38.6%	***39.0%***	***39.0%***	Common Equity Ratio	***39.0%***
22842	22714	22777	22528	24602	27557	32386	36733	36810	37851	***40030***	***42445***	Total Capital ($mill)	***50555***
28723	27824	27921	29664	31974	35183	38853	42244	42477	43834	***46465***	***49255***	Net Plant ($mill)	***58660***
6.0%	6.0%	6.9%	5.7%	5.8%	5.9%	5.6%	4.9%	4.3%	7.6%	***4.5%***	***4.5%***	Return on Total Cap'l	***6.0%***
10.3%	11.1%	15.1%	11.6%	12.0%	12.0%	12.6%	11.8%	8.4%	15.9%	***9.0%***	***9.0%***	Return on Shr. Equity	***9.5%***
10.4%	11.2%	15.2%	11.7%	12.2%	12.1%	12.7%	11.9%	8.4%	16.0%	***9.0%***	***9.0%***	Return on Com Equity E	***9.5%***
4.4%	4.8%	7.7%	3.9%	4.9%	5.2%	5.9%	5.2%	1.9%	9.7%	***2.5%***	***3.0%***	Retained to Com Eq	***3.5%***
58%	58%	50%	68%	61%	58%	55%	57%	78%	40%	***71%***	***69%***	All Div'ds to Net Prof	***62%***

CAPITAL STRUCTURE as of 12/31/23
Total Debt $26246 mill. **Due in 5 Yrs** $11117 mill.
LT Debt $23009 mill. **LT Interest** $1046.0 mill.
Incl. $54.7 mill. of securitization bonds.
(LT interest earned: 2.5x)
Leases, Uncapitalized Annual rentals $67.4 mill.
Pension Assets-12/23 $5469.6 mill.
Oblig $5915.4 mill.
Pfd Stock $219.4 mill. **Pfd Div'd** $18.3 mill.
200,000 shs. 6.25%-7.5%, $100 par; 250,000 shs. 8.75%, 1.4 mill. shs. 5.375%; all cum., without sinking fund.
Common Stock 213,237,552 shs. **as of 1/31/24**
MARKET CAP: $21.5 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	+3.2	+1.1	+4.5
Total Indust. Use (GWH)	49819	52501	52807
Avg. Indust. Revs. per KWH(¢)	5.91	7.08	6.00
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.0	+1.0	+.4
Fixed Charge Cov. (%)	243	209	250

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	-.5%	--	*2.5%*
"Cash Flow"	1.0%	1.0%	*2.5%*
Earnings	2.5%	5.5%	*.5%*
Dividends	2.0%	3.0%	*3.5%*
Book Value	2.0%	6.5%	*4.0%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	2845	2822	3353	2723	11743
2022	2878	3395	4219	3273	13764
2023	2981	2846	3596	2725	12147
2024	***2900***	***3300***	***3300***	***3100***	***12600***
2025	***3100***	***3600***	***3600***	***3200***	***13500***

Calendar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	1.66	1.30	2.63	1.28	6.87
2022	1.36	.78	2.74	.51	5.37
2023	1.47	1.84	3.14	4.66	11.10
2024	***1.50***	***1.05***	***2.95***	***.95***	***6.45***
2025	***1.60***	***1.15***	***3.05***	***1.05***	***6.85***

Calendar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.93	.93	.93	.95	3.74
2021	.95	.95	.95	1.01	3.86
2022	1.01	1.01	1.01	1.07	4.10
2023	1.07	1.07	1.07	1.13	4.34
2024	1.13				

BUSINESS: Entergy Corporation supplies electricity to 3 million customers through subsidiaries in Arkansas, Louisiana, Mississippi, Texas, and New Orleans (regulated separately from Louisiana). Distributes gas to 206,000 customers in Louisiana. Is selling its last nonutility nuclear unit (shut down 5/22). Electric revenue breakdown: residential, 37%; commercial, 24%; industrial, 27%; other, 12%. Generating sources: gas, 68%; nuclear, 22%; coal, 9%; hydro and solar, 1%. Fuel costs: 32% of revenues. '22 reported depreciation rate: 2.7%. Has 11,707 employees. Chairman & CEO: Leo P. Denault. Incorporated: Delaware. Address: 639 Loyola Avenue, P.O. Box 61000, New Orleans, Louisiana 70161. Telephone: 504-576-4000. Internet: www.entergy.com.

Entergy posted much stronger 2023 fourth-quarter earnings results than we expected. Though revenues fell slightly to $2.72 billion, based on lower fuel price surcharges, the company signed 61 new electric service contracts with large customers in 2023. Though fuel costs and purchased power expenses declined, operating margins fell a bit in the quarter as maintenance, depreciation, and interest costs rose. Still, the company benefited from a large tax gain during the quarter as well as from a regulatory reversal of liability related to Hurricane Isaac. Overall, these factors caused earnings to advance to $4.66 per share during the quarter.

The company will likely show decent operating advancement in the years ahead. Revenues ought to increase as Entergy benefits from growth in its residential business as people move into the coverage area. Significant expansion will probably occur in the industrial space, as manufacturing facilities move to the U.S. This will likely be headlined by a new Amazon Web Services building a large facility in Mississippi. Growth should also come from positive developments in rate cases, especially as Entergy gains from higher resilience spending in its New Orleans coverage area. Other rate decisions, such as one in Louisiana, should occur shortly. Additionally, we think that the company will continue to benefit from increased demand for green energy projects as Entergy plans to build out its solar capabilities. We think maintenance and depreciation expenses will rise as it builds out its power generation footprint. Interest expenses ought to remain stable in the short term as interest rates decline, offsetting a higher debt load. Still, we don't foresee any recurrence of the tax benefits. Thus, we have earnings per share slipping to $6.45 in 2024, but rising to $6.85 in 2025, and $8.05 per share by 2027-2029.

Shares of Entergy are neutrally ranked for Timeliness. The stock also offers about-average appreciation potential over the next three to five years, though the dividend is attractive here. The yield is above average for the industry, and we think the payout will continue to grow at a good clip.

John E. Seibert III *March 8, 2024*

(A) Diluted EPS. GAAP starting in 2022. Excl. nonrec. losses: '12, $1.26; '13, $1.14; '14, 56¢; '15, $6.99; '16, $10.14; '17, $2.91; '18, $1.25; '21, $1.33. Next earnings report due early May.
(B) Div'ds historically paid in early Mar., June, Sept., & Dec. ■ Div'd reinvestment plan avail. † Shareholder investment plan avail.
(C) Incl. deferred charges. In '22: $26.66/sh.
(D) In mill. **(E)** Rate base: Net original cost. Allowed ROE (blended): 9.71%; earned on avg. com. eq., '23: 16.0%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	45
Earnings Predictability	80

FORTIS INC. TSE-FTS.TO [A]

RECENT PRICE **52.13** | P/E RATIO **16.7** (Trailing: 16.8 Median: 20.0) | RELATIVE P/E RATIO **0.96** | DIV'D YLD **4.6%** | **VALUE LINE**

TIMELINESS 4 Lowered 3/8/24
SAFETY 2 Raised 7/17/15
TECHNICAL 4 Lowered 3/8/24
BETA .70 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$47-$77 $62 (20%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	100	(+90%)	*21%*
Low	75	(+45%)	*13%*

Institutional Decisions

	1Q2023	2Q2023	3Q2023
to Buy	129	120	112
to Sell	119	107	108
Hld's(000)	241164	244100	245793

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High:	35.1	40.5	42.1	45.1	48.7	47.4	56.9	59.3	61.6	65.4	62.1	56.2						
Low:	29.6	29.8	34.5	36.0	40.6	39.4	44.0	41.6	48.7	48.2	49.8	51.7						

LEGENDS
27.00 x Dividends p sh
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2027 2028 2029

% TOT. RETURN 1/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	2.7	3.7
3 yr.	17.0	20.4
5 yr.	37.5	63.1

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23.07	21.24	21.01	19.84	19.07	18.99	19.57	23.89	17.03	19.71	19.58	18.96	19.14	19.90	22.90	23.48	*24.25*	*25.00*
3.51	3.66	3.99	3.90	4.10	4.10	3.62	5.21	3.91	5.43	5.40	5.44	5.65	5.76	6.24	6.71	*7.00*	*7.30*
1.52	1.51	1.62	1.74	1.65	1.63	1.38	2.11	1.89	2.66	2.52	2.68	2.60	2.61	2.78	3.10	*3.20*	*3.35*
1.00	1.04	1.12	1.17	1.21	1.25	1.30	1.43	1.55	1.65	1.75	1.86	1.97	2.08	2.17	2.29	*2.38*	*2.49*
5.34	5.79	5.89	5.91	5.68	5.32	6.00	7.97	5.13	7.18	7.51	8.03	8.65	7.13	7.02	7.18	*8.25*	*8.25*
18.00	18.57	18.95	20.53	20.84	22.39	24.90	28.63	32.32	31.77	34.80	36.49	36.58	37.21	36.44	39.24	*41.40*	*43.50*
169.19	171.26	174.39	188.83	191.57	213.17	276.00	281.56	401.49	421.10	428.50	463.30	466.80	474.80	482.15	490.60	*495.00*	*500.00*
17.5	16.4	18.2	18.8	20.1	20.0	24.3	18.0	21.6	16.8	17.1	19.2	20.6	21.2	21.1	18.0		
1.05	1.09	1.16	1.18	1.28	1.12	1.28	.91	1.13	.84	.92	1.02	1.06	1.15	1.22	1.03		
3.8%	4.2%	3.8%	3.6%	3.6%	3.8%	3.9%	3.8%	3.8%	3.7%	4.1%	3.6%	3.7%	3.8%	4.1%	4.3%		
5401.0	6727.0	6838.0	8301.0	8390.0	8783.0	8935.0	9448.0	11043.0	11517.0	*12000*	*12500*
374.0	672.0	660.0	1174.0	1136.0	1238.0	1274.0	1294.0	1340.4	1520.9	*1585*	*1675*
14.6%	21.3%	16.9%	25.8%	13.4%	12.5%	14.3%	14.3%	16.0%	14.6%	*14.5%*	*14.5%*
7.2%	7.4%	10.0%	9.5%	8.4%	9.2%	9.3%	9.0%	9.0%	8.0%	*8.0%*	*8.0%*
54.8%	53.3%	59.3%	58.4%	58.8%	54.2%	55.6%	55.5%	55.0%	54.2%	*53%*	*53%*
35.7%	38.1%	36.2%	37.1%	37.2%	41.8%	40.5%	40.8%	41.5%	42.5%	*43.5%*	*43.5%*
19235	21151	35874	36108	40082	40445	42141	43328	44922	46282	*48050*	*49225*
17816	19595	29337	29668	32654	33988	35998	37816	41663	14938	*43500*	*44750*
3.4%	4.5%	2.8%	4.5%	4.1%	4.4%	4.3%	4.2%	2.4%	4.5%	*4.5%*	*4.5%*
4.3%	6.8%	4.5%	7.8%	6.9%	6.7%	6.8%	6.7%	4.4%	7.0%	*7.0%*	*7.0%*
4.5%	7.4%	4.5%	8.3%	7.2%	6.9%	7.1%	7.0%	4.4%	7.0%	*7.0%*	*7.0%*
1.7%	4.5%	2.1%	5.2%	4.1%	4.0%	2.5%	3.5%	3.5%	3.5%	*3.5%*	*3.5%*
68%	46%	59%	41%	46%	45%	67%	52%	78%	81%	*82%*	*82%*

Bold figures are Value Line estimates

Revenues per sh	*26.00*
"Cash Flow" per sh	*8.00*
Earnings per sh [B]	*4.00*
Div'd Decl'd per sh [C] ■	*2.85*
Cap'l Spending per sh	*8.25*
Book Value per sh [D]	*47.05*
Common Shs Outst'g [E]	*510.00*
Avg Ann'l P/E Ratio	*21.5*
Relative P/E Ratio	*1.20*
Avg Ann'l Div'd Yield	*3.3%*
Revenues ($mill)	*13250*
Net Profit ($mill)	*2040*
Income Tax Rate	*14.5%*
AFUDC % to Net Profit	*7.0%*
Long-Term Debt Ratio	*51.5%*
Common Equity Ratio	*45.0%*
Total Capital ($mill)	*51900*
Net Plant ($mill)	*48600*
Return on Total Cap'l	*5.0%*
Return on Shr. Equity	*7.5%*
Return on Com Equity [F]	*7.5%*
Retained to Com Eq	*4.0%*
All Div'ds to Net Prof [G]	*75%*

CAPITAL STRUCTURE as of 12/31/23
Total Debt $29703 mill. **Due in 5 Yrs** $7732 mill.
LT Debt $27235 mill. **LT Interest** $945 mill.
Incl. $340 mill. finance leases.
(LT interest earned: 2.4x)
Leases, Uncapitalized Annual rentals $8 mill.

Pension Assets-12/22 $3722 mill.
Oblig $3922 mill.
Pfd Stock $1623 mill. **Pfd Div'd** $65 mill.

Common Stock 486,300,000 shs.

MARKET CAP: $25.4 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2020	2021	2022
% Change Retail Sales (KWH)	NA	NA	NA
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	207	211	215

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	- -	-.5%	*3.5%*
"Cash Flow"	3.5%	3.5%	*5.0%*
Earnings	4.5%	3.5%	*5.0%*
Dividends	5.5%	5.5%	*6.0%*
Book Value	6.5%	3.5%	*4.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	2539	2130	2196	2583	9448
2022	2835	2487	2553	3168	11043
2023	3319	2594	2719	2885	11517
2024	*3350*	*2550*	*2650*	*3450*	*12000*
2025	*3400*	*2750*	*2850*	*3500*	*12500*

EARNINGS PER SHARE [B]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	.76	.54	.62	.69	2.61
2022	.74	.59	.68	.77	2.78
2023	.90	.61	.81	.78	3.10
2024	*.90*	*.65*	*.80*	*.85*	*3.20*
2025	*.95*	*.75*	*.80*	*.85*	*3.35*

QUARTERLY DIVIDENDS PAID [C] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.4775	.4775	.4775	.505	1.94
2021	.505	.505	.505	.535	2.05
2022	.535	.535	.535	.565	2.17
2023	.565	.565	.565	.590	2.29
2024	.590				

BUSINESS: Fortis Inc.'s main focus is electricity, hydroelectric, and gas utility operations (both regulated and nonregulated) in the United States, Canada, and the Caribbean. Has 2 mill. electric, 1.3 mill. gas customers. Owns UNS Energy (Arizona), Central Hudson (New York), FortisBC Energy (British Columbia), FortisAlberta (Central Alberta), and Eastern Canada (Newfoundland). Sold commercial real estate and hotel property assets in 2015. Acquired ITC Holdings 10/16. Fuel costs: 31% of revs. '23 reported deprec. rate: 2.6%. Has 9,100 employees. Chairman: Jo Mark Zurel. President & CEO: David G. Hutchens. Inc.: Canada. Address: Fortis Place, Suite 1100, 5 Springdale St., PO Box 8837, St. John's, NL, Canada, A1B 3T2. Tel.: 709-737-2800. Internet: www.fortisinc.com.

Fortis finished 2023 on a solid note, and we expect earnings to rise slightly this year. We look for the company to post 2024 profits of $3.20 per share. This year, the company is benefiting from a rate increase at its Tucson Electric Power (TEP) subsidiary. Too, Fortis' ITC transmission subsidiary should increase its yearly income thanks to a forward-looking regulatory mechanism that enables the utility to earn a return on its capital spending and recover most operating expenses. Fortis also remains committed to its target of 4%-6% annual dividend growth through 2028. Indeed, the board of directors raised the quarterly dividend by 4.4% last year, to $0.59 per share.

Earnings should advance nicely in 2025. We are introducing our full-year top- and bottom-line estimates of $12.5 billion and $3.35 per share, respectively. Note, that the U.S. and Canadian dollars exchange can cause fluctuations in Fortis's earnings. Still, Fortis has a proven track record of strong financial performances. And, we look for this to continue over the next few years due to rate base changes, which will support investments to enhance the grid and the transition to clean energy while protecting the utility against the macroeconmic environment. Rate relief should also help improve upon low allowed returns, which are seen in many of Fortis' utilities.

Fortis continues to make progress towards its long-term carbon free target. The company finished the sale of the nonregulated Aitken Creek natural gas storage facility in the fourth period, and TEP's new integrated resource plan calls for the addition of renewable energy and the closure of coal-fired plants. Management announced the utility is on track to reduce gas emissions 50% by 2030, 75% by 2035, and be net zero by 2050. Fortis has already achieved a 33% reduction in emissions versus 2019 levels.

These shares are best suited for income-oriented investors. Indeed, the dividend stands comfortably above the utility average, which is one of the highest dividend-paying industries. What's more, capital appreciation potential for the 18-month and 3- to 5-year time frames remains worthwhile compared to its peers.

Zachary J. Hodgkinson *March 8, 2024*

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	55
Earnings Predictability	95

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(A) Also trades on NYSE (FTS). All data in Canadian $. **(B)** Dil. egs. Excl. nonrecur. gains (loss): '14, 2¢; '15, 48¢; '17, (35¢); '18, 7¢. '19, $1.12. '19 EPS don't sum due to chng. in shs. Next egs. report due early May. **(C)** Div'ds historically paid in early Mar., June, Sept., and Dec. ■ Div'd reinv. plan avail. (2% disc.). **(D)** Incl. intang. In '23: $34.05/sh. **(E)** In mill. **(F)** Rates all'd on com. eq.: 8.3%-10.32%; earn. on avg. com. eq., '21: 7.1%. Reg. Clim.: FERC, Above Avg.; AZ, Below Avg.; NY, Below Avg. **(G)** Excl. div'ds pd. via reinv. plan.

ALLIANT ENERGY NDQ-LNT

RECENT PRICE **47.43** | P/E RATIO **16.5** (Trailing: 17.1 Median: 21.0) | RELATIVE P/E RATIO **0.95** | DIV'D YLD **3.8%** | **VALUE LINE**

TIMELINESS 4 Lowered 10/27/23
SAFETY 2 Raised 9/28/07
TECHNICAL 3 Raised 3/1/24
BETA .90 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$40-$68 $54 (15%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	85	(+80%)	*19%*
Low	60	(+25%)	*10%*

Institutional Decisions

	1Q2023	2Q2023	3Q2023
to Buy	303	270	277
to Sell	259	267	282
Hld's(000)	193788	196380	204187

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
High:	27.1	34.9	35.4	41.0	45.6	46.6	55.4	60.3	62.3	65.4	56.3	52.4								
Low:	21.9	25.0	27.1	30.4	36.6	36.8	40.8	37.7	46.0	47.2	45.2	47.0								
	16.67	15.51	15.40	16.51	13.94	14.77	15.10	14.34	14.58	14.62	14.97	14.89	13.67	14.65	16.74	15.72	***16.75***	***17.30***	Revenues per sh	***18.35***
	2.28	2.10	2.60	2.75	2.95	3.34	3.49	3.45	3.43	3.97	4.32	4.59	4.92	5.25	5.40	5.38	***5.65***	***5.85***	"Cash Flow" per sh	***6.50***
	1.27	.95	1.38	1.38	1.53	1.65	1.74	1.69	1.65	1.99	2.19	2.33	2.47	2.63	2.73	2.78	***3.05***	***3.25***	Earnings per sh [A]	***3.90***
	.70	.75	.79	.85	.90	.94	1.02	1.10	1.18	1.26	1.34	1.42	1.52	1.61	1.71	1.81	***1.92***	***2.04***	Div'd Decl'd per sh [B] ■ †	***2.43***
	3.98	5.43	3.91	3.03	5.22	3.32	3.78	4.25	5.26	6.34	6.92	6.69	5.47	4.67	5.91	7.24	***5.80***	***5.60***	Cap'l Spending per sh	***5.40***
	12.78	12.54	13.05	13.57	14.12	14.79	15.54	16.41	16.96	18.08	19.43	21.24	22.76	23.91	24.99	26.46	***27.65***	***28.85***	Book Value per sh [C]	***31.90***
	220.90	221.31	221.79	222.04	221.97	221.89	221.87	226.92	227.67	231.35	236.06	245.02	249.87	250.47	251.14	256.10	***256.70***	***256.70***	Common Shs Outst'g [D]	***257.00***
	13.4	13.9	12.5	14.5	14.5	15.3	16.6	18.1	22.3	20.6	19.1	21.2	21.2	21.2	21.4	18.8	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	***18.0***
	.81	.93	.80	.91	.92	.86	.87	.91	1.17	1.04	1.03	1.13	1.09	1.15	1.24	1.05			Relative P/E Ratio	***1.00***
	4.1%	5.7%	4.6%	4.3%	4.1%	3.7%	3.5%	3.6%	3.2%	3.1%	3.2%	2.9%	2.9%	2.9%	2.9%	3.5%			Avg Ann'l Div'd Yield	***3.7%***
	3350.3	3253.6	3320.0	3382.2	3534.5	3647.7	3416.0	3669.0	4205.0	4027.0	***4300***	***4440***	Revenues ($mill)	***4720***
	395.7	390.9	384.0	466.1	522.3	567.4	624.0	674.0	686.0	703.0	***780***	***835***	Net Profit ($mill)	***975***
	10.1%	15.3%	13.4%	12.5%	8.4%	10.8%	--	--	3.1%	.6%	***2.0%***	***2.0%***	Income Tax Rate	***2.0%***
	8.8%	9.4%	16.3%	10.7%	14.5%	16.3%	8.8%	3.7%	8.7%	14.2%	***6.0%***	***6.0%***	AFUDC % to Net Profit	***4.0%***
	49.7%	47.3%	51.5%	47.8%	52.3%	50.6%	53.5%	52.9%	55.0%	54.8%	***56.5%***	***55.0%***	Long-Term Debt Ratio	***52.0%***
	47.5%	50.0%	46.1%	49.8%	45.7%	47.6%	44.9%	47.1%	45.0%	45.2%	***43.5%***	***45.0%***	Common Equity Ratio	***48.0%***
	7257.2	7446.3	8377.6	8392.8	10032	10938	12657	12725	13944	15002	***16220***	***16530***	Total Capital ($mill)	***17070***
	6442.0	8970.2	9809.9	10798	12462	13527	14336	14987	16247	17157	***18300***	***18600***	Net Plant ($mill)	***19180***
	6.5%	6.3%	5.6%	6.7%	6.3%	6.3%	5.9%	6.3%	6.1%	6.0%	***6.0%***	***6.5%***	Return on Total Cap'l	***7.0%***
	10.8%	10.0%	9.5%	10.6%	10.9%	10.5%	10.6%	11.3%	10.9%	10.4%	***11.0%***	***11.5%***	Return on Shr. Equity	***12.0%***
	11.2%	10.2%	9.7%	10.9%	11.2%	10.7%	10.8%	11.0%	10.9%	10.4%	***11.0%***	***11.5%***	Return on Com Equity [E]	***12.0%***
	4.6%	3.6%	2.8%	4.0%	4.4%	4.2%	4.2%	4.3%	4.1%	3.6%	***4.0%***	***4.0%***	Retained to Com Eq	***4.5%***
	60%	66%	72%	64%	62%	61%	62%	62%	62%	65%	***63%***	***63%***	All Div'ds to Net Prof	***62%***

CAPITAL STRUCTURE as of 12/31/23
Total Debt $9509 mill. **Due in 5 Yrs** $2984 mill.
LT Debt $8225 mill. **LT Interest** $370 mill.
(LT interest earned: 2.8x)

Leases, Uncapitalized Annual rentals $3 mill.

Pension Assets-12/23 $732 mill.
Oblig $876 mill.

Pfd Stock None

Common Stock 256,100,293 shs.

MARKET CAP: $12.1 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	+3.7	-.7	
Avg. Indust. Use (MWH)	11696	11494	11435
Avg. Indust. Revs. per KWH (¢)	7.64	8.39	8.47
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	5486	5629	5856
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.8	+.7	+.7
Fixed Charge Cov. (%)	259	NA	NA

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	.5%	1.5%	*2.0%*
"Cash Flow"	6.0%	6.5%	*3.5%*
Earnings	6.0%	7.0%	*6.5%*
Dividends	6.5%	6.5%	*6.0%*
Book Value	6.0%	6.5%	*5.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	901	817	1024	927	3669
2022	1068	943	1135	1059	4205
2023	1077	912	1077	961	4027
2024	*1150*	*975*	*1150*	*1025*	*4300*
2025	*1185*	*1005*	*1185*	*1065*	*4440*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	.68	.57	1.02	.35	2.63
2022	.77	.63	.90	.43	2.73
2023	.65	.64	1.02	.47	2.78
2024	*.69*	*.65*	*1.07*	*.64*	*3.05*
2025	*.74*	*.69*	*1.14*	*.68*	*3.25*

QUARTERLY DIVIDENDS PAID [B] ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.38	.38	.38	.38	1.52
2021	.4025	.4025	.4025	.4025	1.61
2022	.4275	.4275	.4275	.4275	1.71
2023	.4525	.4525	.4525	.4525	1.81
2024	.48				

BUSINESS: Alliant Energy Corporation is the parent company of Interstate Power and Light Company (IPL) and Wisconsin Power and Light Company (WPL). Together, the utility subsidiaries serve approximately one million electric and 425,000 natural gas customers in Wisconsin and Iowa. Electric revenue: residential, 36%; commercial, 25%; industrial, 29%; wholesale, 8%; other, 2%. Generating sources: coal, 32%; gas, 32%; wind, 16%; other, 1%; purchased, 19%. Fuel costs: 25% of revs. '22 reported deprec. rates: 2.9%-6.1%. Has 3,300 employees. Chairman, President & CEO: John O. Larsen. Inc.: Wisconsin. Address: 4902 N. Biltmore Lane, Madison, WI 53718-2148. Tel.: 608-458-3311. Internet: www.alliantenergy.com.

Alliant Energy posted fairly modest bottom-line growth last year. Indeed, on a GAAP basis, earnings rose just 2% to $2.78 a share in 2023, well below the 6% average annual gains that the Madison, Wisconsin-based electric and natural gas utility enjoyed over the past decade. Relatively mild weather across Alliant's two-state service area hurt heating and cooling demand. The modest earnings gain also reflected the further write down of tax assets on Alliant's balance sheet after Iowa's Department of Revenue reduced state levies on corporate income. That said, on a normalized basis, excluding the two aforementioned factors, EPS growth was approximately 5.5%, within the utility company's long-term target range.

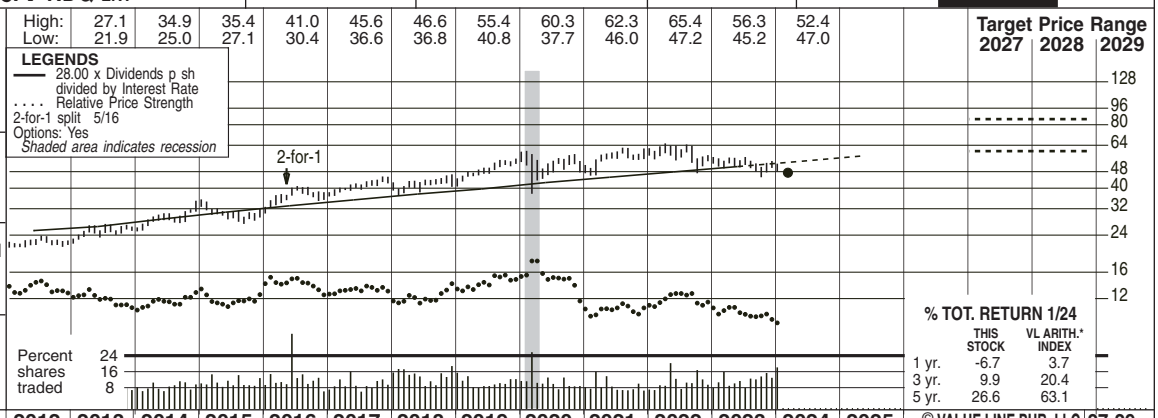
We have profits rising roughly 8%, to $3.05 a share, in 2024. Underpinning our optimism is, in part, an expectation that Alliant will continue to exhibit good cost discipline. To that point, operating and maintenance expenses declined $30 million in 2023, helped by the retirement of the Lansing coal-fired power plant in northeast Iowa.

Leadership is budgeting more than $4 billion for renewable-energy and battery-storage projects between 2023 and 2027. Importantly, going green will greatly reduce the utility's reliance on fossil fuels, the price of which can fluctuate significantly. At the same time, Alliant stands to earn sizable tax credits, which it can monetize and use to further lower service costs.

Power demand may increase at a fairly modest clip over the next decade or two. A recent study ranked Wisconsin 39th among the 50 states for likely population growth between 2020 and 2040. Iowa, meanwhile, was just a bit better, at 28th. That said, word that Alliant has recently seen an uptick in economic development interest augurs well not only for commercial activity across the utility company's service area but also for the Midwest as a destination for job seekers.

Alliant shares remain an untimely selection for relative year-ahead price performance. Still, the utility company boasts both a fairly attractive dividend (current yield: 3.8%) and solid long-term total return potential.

Nils C. Van Liew *March 8, 2024*



% TOT. RETURN 1/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-6.7	3.7
3 yr.	9.9	20.4
5 yr.	26.6	63.1

(A) Diluted EPS. Excl. nonrecurring losses: '11, 1¢; '12, 8¢. '20 & '21 EPS don't sum due to rounding. Next earnings report due early May. **(B)** Dividends historically paid in mid-Feb., May, Aug., and Nov. ■ Dividend reinvestment plan avail. † Shareholder investment plan avail. **(C)** Incl. deferred charges. In '21: $1,980 mill., $7.91/sh. **(D)** In millions, adj. for split. **(E)** Rate base: Orig. cost. Rates all'd on com. eq. in IA in '20: various; in WI in '22: 10%; earned on avg. com. eq., '21: 11.3%. Regulatory Climate: Wisconsin, Above Average; Iowa, Average.

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	60
Earnings Predictability	100

MGE ENERGY, INC. NDQ-MGEE

RECENT PRICE **63.23** | P/E RATIO **18.6** (Trailing: 19.3 Median: 25.0) | RELATIVE P/E RATIO **1.07** | DIV'D YLD **2.7%** | **VALUE LINE**

TIMELINESS 3 Lowered 2/23/24
SAFETY 2 Raised 3/8/24
TECHNICAL 3 Raised 2/2/24
BETA .80 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$53-$95 $74 (15%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	105	(+65%)	*16%*
Low	75	(+20%)	*7%*

Institutional Decisions

	1Q2023	2Q2023	3Q2023
to Buy	108	82	84
to Sell	64	82	84
Hld's(000)	18676	19530	19172

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High:	40.5	48.0	48.0	66.9	68.7	68.9	80.8	83.3	82.9	86.3	83.3	73.9						
Low:	33.4	35.7	36.5	44.8	60.3	51.1	56.7	47.2	63.0	61.7	65.1	62.1						

LEGENDS
45.00 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
3-for-2 split 2/14
Options: Yes
Shaded area indicates recession

Target Price Range 2027 2028 2029

% TOT. RETURN 1/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-9.7	3.7
3 yr.	8.1	20.4
5 yr.	11.4	63.1

Percent shares traded 18 12 6

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17.35	15.40	15.36	15.76	15.61	17.04	17.88	16.27	15.71	16.24	16.15	16.41	14.89	16.77	19.76	19.09	*20.20*	*20.75*	Revenues per sh	*24.00*
2.68	2.66	2.76	2.94	2.98	3.28	3.49	3.33	3.47	3.73	4.06	4.57	4.61	5.05	5.43	6.04	*6.70*	*7.30*	"Cash Flow" per sh	*8.25*
1.59	1.47	1.67	1.76	1.86	2.16	2.32	2.06	2.18	2.20	2.43	2.51	2.60	2.92	3.07	3.25	*3.70*	*4.00*	Earnings per sh [A]	*4.65*
.96	.97	.99	1.01	1.04	1.07	1.11	1.16	1.21	1.26	1.32	1.38	1.45	1.52	1.59	1.67	*1.71*	*1.80*	Div'd Decl'd per sh [B] ■	*1.95*
3.08	2.35	1.76	1.88	2.84	3.43	2.67	2.08	2.41	3.12	6.12	4.73	5.62	4.24	4.84	6.10	*6.15*	*6.20*	Cap'l Spending per sh	*7.00*
13.92	14.47	15.14	15.89	16.71	17.81	19.02	19.92	20.89	22.45	23.56	24.68	26.99	28.41	29.91	31.52	*33.20*	*34.55*	Book Value per sh [C]	*36.50*
34.36	34.67	34.67	34.67	34.67	34.67	34.67	34.67	34.67	34.67	34.67	34.67	36.16	36.16	36.16	36.16	*36.16*	*36.16*	Common Shs Outst'g [D]	*36.16*
14.2	15.1	15.0	15.8	17.2	17.0	17.2	20.3	24.9	29.4	25.1	28.4	26.4	25.5	24.7	20.0	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*19.5*
.85	1.01	.95	.99	1.09	.96	.91	1.02	1.31	1.48	1.36	1.51	1.36	1.38	1.43	1.15			Relative P/E Ratio	*1.10*
4.2%	4.4%	4.0%	3.6%	3.2%	2.9%	2.8%	2.8%	2.2%	2.0%	2.2%	1.9%	2.1%	2.0%	2.1%	2.2%			Avg Ann'l Div'd Yield	*2.2%*
619.9	564.0	544.7	563.1	559.8	568.9	538.6	606.6	714.5	690.4	*730*	*750*	Revenues ($mill)	*865*
80.3	71.3	75.6	76.1	84.2	86.9	92.4	105.8	111.0	117.7	*135*	*145*	Net Profit ($mill)	*170*
37.5%	36.7%	36.0%	36.4%	24.6%	18.5%	17.4%	3.7%	19.1%	19.1%	*19.0%*	*19.0%*	Income Tax Rate	*19.0%*
5.7%	1.3%	2.1%	2.1%	5.2%	3.6%	8.7%	6.3%	6.3%	*4.0%*	*4.0%*	*3.0%*	AFUDC % to Net Profit	*3.0%*
37.5%	36.2%	34.6%	33.8%	37.7%	38.0%	35.5%	38.1%	35.8%	38.5%	*38.0%*	*37.5%*	Long-Term Debt Ratio	*37.5%*
62.5%	63.8%	65.4%	66.2%	62.3%	62.0%	64.5%	61.9%	64.2%	61.5%	*62.0%*	*62.5%*	Common Equity Ratio	*62.5%*
1054.7	1081.5	1106.9	1176.3	1310.0	1379.4	1512.8	1659.0	1684.0	1858.9	*1925*	*2000*	Total Capital ($mill)	*2100*
1208.1	1243.4	1282.1	1341.4	1509.4	1642.7	1769.4	1878.8	1971.1	2128.2	*2250*	*2350*	Net Plant ($mill)	*2600*
8.6%	7.5%	7.7%	7.3%	7.2%	7.1%	6.8%	7.1%	7.4%	*6.5%*	*7.0%*	*7.0%*	Return on Total Cap'l	*8.0%*
12.2%	10.3%	10.4%	9.8%	10.3%	10.2%	9.5%	10.3%	10.3%	10.5%	*11.0%*	*11.5%*	Return on Shr. Equity	*12.5%*
12.2%	10.3%	10.4%	9.8%	10.3%	10.2%	9.5%	10.3%	10.3%	10.5%	*11.0%*	*11.5%*	Return on Com Equity [E]	*12.5%*
6.4%	4.5%	4.7%	4.2%	4.7%	4.6%	4.2%	5.0%	4.9%	5.0%	*6.0%*	*6.5%*	Retained to Com Eq	*7.5%*
48%	56%	55%	57%	54%	55%	56%	52%	52%	51%	*46%*	*45%*	All Div'ds to Net Prof	*42%*

CAPITAL STRUCTURE as of 12/31/23
Total Debt $723.9 mill. **Due in 5 Yrs** $110.0 mill.
LT Debt $718.8 mill. **LT Interest** $30.4 mill.

(LT interest earned: 4.8x)
Leases, Uncapitalized Annual rentals $2.0 mill.
Pension Assets-12/23 $404 mill.
Oblig $65.0 mill.
Pfd Stock None

Common Stock 36,168,310 shs.
as of 1/31/24
MARKET CAP: $2.3 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	+3.2	-.3	-1.0
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	7.69	8.71	9.09
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	486	517	525

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '20-'22 to '27-'29
Revenues	1.0%	2.5%	*4.5%*
"Cash Flow"	5.5%	7.0%	*5.0%*
Earnings	4.5%	5.5%	*6.0%*
Dividends	4.0%	4.0%	*3.5%*
Book Value	5.5%	5.5%	*2.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	167.9	130.7	145.9	162.1	606.6
2022	209.0	152.3	163.4	189.8	714.5
2023	217.3	148.0	160.5	164.6	690.4
2024	*220*	*150*	*165*	*195*	*730*
2025	*225*	*160*	*170*	*195*	*750*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	.96	.63	.97	.36	2.92
2022	.96	.60	.93	.58	3.07
2023	.86	.79	1.05	.55	3.25
2024	*.95*	*.90*	*1.00*	*.85*	*3.70*
2025	*1.00*	*1.00*	*1.00*	*1.00*	*4.00*

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec. 31	Full Year
2020	.352	.352	.37	.37	1.45
2021	.37	.37	.388	.388	1.52
2022	.388	.388	.408	.408	1.59
2023	.408	.408	.4275	.4275	1.67
2024	.4275				

BUSINESS: MGE Energy, Inc. is a holding company for Madison Gas and Electric Company (MGE), which provides electric service to 163,000 customers in Dane County and gas service to 176,000 customers in seven counties in Wisconsin. Electric revenue breakdown: residential, 35%; commercial, 51%; industrial, 3%; other, 11%. Generating sources: coal, 40%; gas, 17%; renewables, 21%; purchased power, 22%. Fuel costs: 30% of revenues. '23 reported depreciation rates: electric, 3.8%; gas, 2.1%; nonregulated, 2.3%. Has about 700 employees. Chairman, President & CEO: Jeffrey M. Keebler. Incorporated: Wisconsin. Address: 133 South Blair Street, P.O. Box 1231, Madison, Wisconsin 53701-1231. Telephone: 608-252-7000. Internet: www.mgeenergy.com.

MGE Energy registered mixed results for 2023. The full-year top line decreased more than 3% year over year, to $690 million. However, the bottom line advanced about 6% over the previous-year tally, to $3.25 per share. Revenue faced pressure from a 13% decrease in retail natural gas volumes due to warmer weather, alongside low- to mid-double-digit declines in gas consumption among residential, commercial, and industrial customers. Nevertheless, increased investments in the electric utility contributed to improved earnings. This was driven by the completion of the Red Barn wind project in April 2023 and the Badger Hollow II solar project in December 2023.

Rate cases for 2024 and 2025 were approved. In December 2023, the Public Service Commission of Wisconsin sanctioned rate increases of 1.54% for electric and 2.44% for gas in 2024. Additionally, the regulator granted electric and gas rate hikes of 4.17% and 1.32%, respectively, for 2025.

The near-term profit picture appears healthy. MGE's electric utility generates over 70% of total operating revenues. The company is continuously investing in capital projects to strengthen its electric infrastructure. We think a combination of rate relief and improved cost controls will keep the bottom line healthy. Consequently, we estimate a 14% increase in per-share profit for 2024. Meanwhile, we project an 8% gain in 2025 earnings per share.

The company's commitment to investing in assets that promote renewable generation is expected to enhance its long-term profitability. Nearly half of its capital expenditures are earmarked for renewable and clean energy projects through 2028. These investments should provide a solid ground for future rate cases.

Shares of MGE Energy are ranked to mirror the broader market averages in the year ahead. It is worth noting that the dividend yield (2.7%) for MGE is below most utility equities. So, we think income-oriented accounts interested in utilities can find better dividend-paying stocks in the sector. Still, the equity is a safe choice, as it is ranked 2 (Above Average) for Safety.

Emma Jalees *March 8, 2024*

(A) GAAP Diluted earnings. Excludes nonrecurring gain: '17, 62¢. Quarterly earnings may not sum to full year due to rounding or share count change. Next earnings report due early May. **(B)** Div'ds historically paid in mid-March, June, September, and December ■ Div'd reinvestment plan avail. **(C)** Includes regulatory assets. In '23: $102.3 mill., $2.83/sh. **(D)** In millions, adj for split. **(E)** Rate allowed on common equity in '23: 9.7%; Regulatory Climate: Above Average.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	60
Earnings Predictability	100

WEC ENERGY GROUP NYSE-WEC

RECENT PRICE **76.55** | P/E RATIO **15.2** (Trailing: 16.5 Median: 21.0) | RELATIVE P/E RATIO **0.87** | DIV'D YLD **4.4%** | **VALUE LINE**

TIMELINESS 5 Lowered 2/16/24
SAFETY 1 Raised 3/23/12
TECHNICAL 3 Lowered 3/8/24
BETA .85 (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$67-$121 $94 (25%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	140	(+85%)	*19%*
Low	115	(+50%)	*14%*

Institutional Decisions

	1Q2023	2Q2023	3Q2023
to Buy	430	428	415
to Sell	414	426	457
Hld's(000)	237652	239348	243133

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High:	45.0	55.4	58.0	66.1	70.1	75.5	98.2	109.5	99.9	108.4	99.3	86.9						
Low:	37.0	40.2	44.9	50.4	56.1	58.5	67.2	68.0	80.6	80.8	75.5	75.1						

LEGENDS
29.40 x Dividends p sh
Relative Price Strength
2-for-1 split 3/11
Options: Yes
Shaded area indicates recession

Target Price Range 2027 2028 2029

% TOT. RETURN 1/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-11.0	3.7
3 yr.	-0.1	20.4
5 yr.	27.7	63.1

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18.95	17.65	17.98	19.46	18.54	20.00	22.16	18.77	23.68	24.24	24.34	23.85	22.96	26.36	30.43	28.19	*30.10*	*31.25*	Revenues per sh	*35.35*
2.95	3.11	3.30	3.68	4.01	4.33	4.47	3.87	5.39	5.69	6.04	6.53	6.90	7.53	8.01	8.64	*9.35*	*10.15*	"Cash Flow" per sh	*11.85*
1.52	1.60	1.92	2.18	2.35	2.51	2.59	2.34	2.96	3.14	3.34	3.58	3.79	4.11	4.46	4.63	*4.90*	*5.25*	Earnings per sh [A]	*6.30*
.54	.68	.80	1.04	1.20	1.45	1.56	1.74	1.98	2.08	2.21	2.36	2.53	2.71	2.91	3.12	*3.34*	*3.57*	Div'd Decl'd per sh [B] ■	*3.83*
4.86	3.50	3.41	3.60	3.09	3.04	3.26	4.01	4.51	6.21	6.71	7.17	7.10	7.14	7.34	9.14	*9.30*	*9.30*	Cap'l Spending per sh	*9.25*
14.27	15.26	16.26	17.20	18.05	18.73	19.60	27.42	28.29	29.98	31.02	32.06	33.19	34.60	36.76	37.25	*37.90*	*38.70*	Book Value per sh [C]	*42.00*
233.84	233.82	233.77	230.49	229.04	225.96	225.52	315.68	315.62	315.57	315.52	315.43	315.43	315.43	315.43	315.43	*315.43*	*315.43*	Common Shs Outst'g [D]	*315.43*
14.8	13.3	14.0	14.2	15.8	16.5	17.7	21.3	19.9	20.0	19.6	23.5	24.9	22.3	21.9	19.1			Avg Ann'l P/E Ratio	*20.5*
.89	.89	.89	.89	1.01	.93	.93	1.07	1.04	1.01	1.06	1.25	1.28	1.21	1.27	1.09			Relative P/E Ratio	*1.15*
2.4%	3.2%	3.0%	3.3%	3.2%	3.5%	3.4%	3.5%	3.4%	3.3%	3.4%	2.8%	2.7%	3.0%	3.4%	3.8%			Avg Ann'l Div'd Yield	*3.4%*

Bold figures are Value Line estimates

4997.1	5926.1	7472.3	7648.5	7679.5	7523.1	7241.7	8316.0	9597.4	8893.0	*9500*	*9850*	Revenues ($mill)	*11150*
589.5	640.3	940.2	998.2	1060.5	1134.2	1201.1	1301.5	1406.8	1460.4	*1545*	*1655*	Net Profit ($mill)	*1985*
38.0%	40.4%	37.6%	37.2%	13.8%	9.9%	15.9%	13.4%	18.6%	18.8%	*19.0%*	*19.0%*	Income Tax Rate	*19.0%*
1.3%	4.5%	3.8%	1.6%	2.1%	1.8%	2.4%	1.9%	2.1%	2.1%	*2.0%*	*2.0%*	AFUDC % to Net Profit	*2.0%*
48.5%	51.2%	50.5%	48.0%	50.4%	52.5%	52.8%	55.3%	54.7%	54.9%	*55.0%*	*55.0%*	Long-Term Debt Ratio	*55.5%*
51.2%	48.6%	49.3%	51.9%	49.4%	47.4%	47.1%	44.6%	44.4%	44.5%	*44.5%*	*44.5%*	Common Equity Ratio	*44.5%*
8636.5	17809	18118	18238	19813	21355	22228	24467	25368	26279	*27000*	*28120*	Total Capital ($mill)	*29800*
11258	19190	19916	21347	22001	23620	25707	26982	29114	31582	*31000*	*32750*	Net Plant ($mill)	*35100*
8.1%	4.5%	6.3%	6.6%	6.5%	6.5%	6.5%	6.3%	6.4%	6.5%	*6.5%*	*6.5%*	Return on Total Cap'l	*7.0%*
13.2%	7.4%	10.5%	10.5%	10.8%	11.2%	11.4%	11.9%	12.0%	12.5%	*12.5%*	*12.5%*	Return on Shr. Equity	*13.0%*
13.3%	7.4%	10.5%	10.5%	10.8%	11.2%	11.5%	11.9%	12.5%	12.5%	*12.5%*	*12.5%*	Return on Com Equity [E]	*13.0%*
5.3%	2.1%	3.5%	3.6%	3.7%	3.8%	3.8%	4.1%	4.0%	4.5%	*4.0%*	*4.0%*	Retained to Com Eq	*4.0%*
60%	71%	67%	66%	66%	66%	67%	66%	65%	68%	*68%*	*68%*	All Div'ds to Net Prof	*64%*

CAPITAL STRUCTURE as of 12/31/23
Total Debt $18797.9 mill. **Due in 5 Yrs** $4611 mill.
LT Debt $15512.8 mill. **LT Interest** $452.7 mill.
Incl. $12.1 mill. finance leases.
(LT interest earned: 4.4x)
Leases, Uncapitalized Annual rentals $6.8 mill.
Oblig $3136.6 mill.
Pfd Stock $30.4 mill. **Pfd Div'd** $1.2 mill.
260,000 shs. 3.60%, $100 par, callable $101;
44,498 shs. 6%, $100 par.
Common Stock 315,561,510 shs.

MARKET CAP: $24.2 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2020	2021	2022
% Change Retail Sales (KWH)	-2.5	-2.6	+3.4
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Lg. C&I Revs. per KWH (¢)	7.25	6.61	7.51
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.6	+.7	+.2
Fixed Charge Cov. (%)	300	338	357

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	3.0%	2.0%	*5.0%*
"Cash Flow"	7.0%	7.5%	*6.5%*
Earnings	6.5%	7.0%	*6.0%*
Dividends	10.0%	6.5%	*7.0%*
Book Value	7.0%	3.5%	*4.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	2691	1676	1746	2201	8316.0
2022	2908	2127	2003	2558	9597.4
2023	2888	1830	1957	2218	8893.0
2024	*2900*	*2000*	*2200*	*2400*	*9500*
2025	*2950*	*2150*	*2250*	*2500*	*9850*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	1.61	.87	.92	.71	4.11
2022	1.79	.91	.96	.80	4.46
2023	1.61	.92	1.00	1.10	4.63
2024	*1.80*	*1.00*	*1.15*	*.95*	*4.90*
2025	*1.90*	*1.10*	*1.20*	*1.05*	*5.25*

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.6325	.6325	.6325	.6325	2.53
2021	.6775	.6775	.6775	.6775	2.71
2022	.7275	.7275	.7275	.7275	2.91
2023	.7800	.7800	.7800	.7800	3.12
2024	.8350				

BUSINESS: WEC Energy Group, Inc. (formerly Wisconsin Energy) is a holding company for utilities that provide electric, gas & steam service in WI & gas service in IL, MN, & MI. Customers: 1.6 mill. elec., 2.9 mill. gas. Acq'd Integrys Energy 6/15. Electric revenue breakdown: residential, 39%; small commercial & industrial, 32%; large commercial & industrial, 21%; other, 8%. Generating sources: coal, 36%; gas, 28%; renewables, 5%; purchased, 31%. Fuel costs: 40% of revenues. '23 reported deprec. rates: 2.4%-3.1%. Has 6,900 employees. Chairman: Gale E. Klappa. President & CEO: Scott J. Lauber. Incorporated.: Wisconsin. Address: 231 W. Michigan St., P.O. Box 1331, Milwaukee, WI 53201. Telephone.: 414-221-2345. Internet: www.wecenergygroup.com.

WEC Energy Group recorded another year of solid earnings, and we expect growth to pick up even more over the next few years. The utility continues to take advantage of electric and gas volume increases, as well as construction initiatives and positive developments in the infrastructure and transmission segments. On the regulatory front, the company has received some unfavorable rulings of late. In Illinois, the Commerce Commission disallowed $236.2 million of capital costs related to the construction and improvement of Peoples Gas Light service centers, and paused the multi-billion-dollar pipeline replacement program. The project is approximately 38% complete, and WEC was planning to invest $265 million in replacement upgrades this year. Note, the Commission also reduced the company's Peoples Gas and North Shore Gas subsidiaries initial rate requests by 25% and 34%, respectively.

We look for 2024 earnings of $4.90 per share, the high point of management's updated target range. This growth is also in line with WEC Energy's goal for annual earnings growth of 6%-7%. The same factors that were present last year should continue to prop up profits in 2024 and next year. The utilities in Wisconsin will file rate reviews this spring, with new tariffs taking effect in 2025 and 2026. And, we expect WEC will continue to benefit from pending and future rate cases. As a result, we are introducing our 2025 EPS estimate of $5.25. We also think WEC will earn $6.30 a share and trade around $115-$140 by 2027-2029.

The board of directors raised the dividend in the first period. The increase was $0.055 a share (7%) quarterly, a bit larger than the $0.053 (6%) hike we expected. WEC Energy's goals remain a payout ratio of 65%-70% of earnings, and dividend growth in line with EPS growth.

This issue may appeal to risk-minded investors seeking income. The dividend yield of this top-quality, though untimely, stock stands above the utility average, which is one of the highest dividend-paying industries. What's more, capital appreciation potential for the 18-month span and 3- to 5-year period is attractive compared to most of its peers.

Zachary J. Hodgkinson *March 8, 2024*

(A) Diluted EPS. Excl. gain on discontinued ops.: '11, 6¢; nonrecurring gain: '17, 65¢. Next earnings report due early May. **(B)** Div'ds paid in early Mar., June, Sept. & Dec. ■ Div'd reinvestment plan avail. **(C)** Incl. intang. In '22: $20.05/sh. **(D)** In mill., adj. for split. **(E)** Rate base: Net orig. cost. Rates all'd on com. eq. in WI in '15: 10.0%-10.2%; in IL in '21: 9.67%; in MN in '19: 9.7%; in MI in '22: 9.85%; earned on avg. com. eq., '21: 12.2%. Regulatory Climate: WI, Above Average; IL, Below Average; MN & MI, Average.

Company's Financial Strength	A+
Stock's Price Stability	85
Price Growth Persistence	65
Earnings Predictability	100

Exhibit TJB-4

Liberty Utilities (Calpeco) Corp.
Summary of Results

Exhibit TJB-4
Table 1
Witness: Bourassa

Line No.		Indicated Cost of Equity for Sample Group		Indicated Cost of Equity for Company[1]
1	DCF Constant Growth - Table 6	9.8%		10.2%
2	Risk Premium (Total Returns)- Table 8	11.3%		11.7%
3	Risk Premium (Total Returns) - Table 9	10.2%		10.6%
4	CAPM - Table 11	10.5%		10.9%
5	Mid-point	10.6%		11.0%
6	Cost of Equity Recommendation		11.0%	

Notes:
[1]Estimates include an equity risk premium of 40 basis points. See Testimony.
and a financial risk adjustment of 0 basis points. See Testimony.

Liberty Utilities (Calpeco) Corp.
Selected Characteristics of Sample Group of Water Utilities

Exhibit TJB-4
Table 2
Witness: Bourassa

Line No.	Company	Symbol	Operating Revenues (millions)[1]	Net Plant (millions)[1]	Number of Customers (thousands)	Value Line Beta[1]	VL Adjusted Sum Beta[2]	Market Capitalization (millions)[1]	Size Category[2]
1	ALLETE	ALE	1,571	5,004	146	0.95	0.86	3,470	Mid-Cap 3-5
2	Alliant Energy	LNT	4,027	17,157	1,425	0.90	0.87	12,897	Mid-Cap 3-5
3	Amer. Elec. Power	AEP	19,640	71,283	5,500	0.80	0.81	46,456	Large-Cap
4	Ameren Corp.	AEE	7,957	31,262	3,340	0.90	0.82	19,583	Large-Cap
5	Avista Corp.	AVA	1,752	5,700	797	0.95	0.85	2,861	Low-Cap 6-8
6	Black Hills	BKH	2,331	7,119	1,340	1.05	0.98	3,792	Mid-Cap 3-5
7	CMS Energy Corp.	CMS	7,462	25,072	3,700	0.85	0.84	18,167	Large-Cap
8	Consol. Edison	ED	14,663	49,608	5,200	0.80	0.76	32,745	Large-Cap
9	DTE Energy	DTE	19,228	28,767	3,500	1.00	0.92	23,038	Large-Cap
10	Duke Energy	DUK	28,768	111,748	9,200	0.90	0.83	76,930	Large-Cap
11	Edison Int'l	EIX	16,338	56,084	5,300	1.00	1.04	27,366	Large-Cap
12	Entergy Corp.	ETR	12,147	43,834	3,200	1.00	0.95	22,771	Large-Cap
13	Fortis Inc.	FTS	11,043	41,663	3,300	0.70	0.77	26,210	Large-Cap
14	IDACORP Inc.	IDA	1,766	5,745	633	0.85	0.84	4,858	Mid-Cap 3-5
15	MGE Energy	MGEE	715	1,971	339	0.80	0.79	2,855	Low-Cap 6-8
16	Northwestern Corp.	NWE	1,422	6,040	774	0.95	0.93	3,115	Mid-Cap 3-5
17	Pinnacle West Capital	PNW	4,696	17,980	1,400	0.95	0.90	8,500	Mid-Cap 3-5
18	Portland General	POR	2,923	9,546	934	0.90	0.87	4,525	Mid-Cap 3-5
19	Public Serv. Enterprise	PEG	11,237	38,031	4,300	0.95	0.99	34,835	Large-Cap
20	WEC Energy Group	WEC	9,597	29,114	4,500	0.85	0.80	26,052	Large-Cap
21	Xcel Energy Inc.	XEL	14,206	51,642	6,000	0.85	0.82	29,873	Large-Cap
22	Average		$ 9,214	$ 31,161	3,087	0.90	0.87	$ 20,519	
23	Liberty Utilities (Calpeco) Corp.		$ 170.2	$ 549.5	50	Indicated[3] 0.97	Indicated[3] 0.94	N/A	

Notes:
[1] Value Line Analyzer Data (Weekly as of May 1, 2024)
[2] See work papers.
[3] See Risk Study Exhibit TJB-5, page 6.

Liberty Utilities (Calpeco) Corp.
Capital Structures

Exhibit TJB-4
Table 3
Witness: Bourassa

Line No.	Company	Symbol	Book Value[1] Long-Term Debt	Book Value[1] Common Equity	Market Value[1] Long-Term Debt	Market Value[1] Common Equity
1	ALLETE	ALE	38.0%	62.0%	32.2%	67.8%
2	Alliant Energy	LNT	54.8%	45.2%	38.9%	61.1%
3	Amer. Elec. Power	AEP	58.5%	41.5%	42.0%	58.0%
4	Ameren Corp.	AEE	56.6%	43.4%	41.1%	58.9%
5	Avista Corp.	AVA	51.2%	48.8%	47.7%	52.3%
6	Black Hills	BKH	54.2%	45.8%	50.1%	49.9%
7	CMS Energy Corp.	CMS	66.6%	33.4%	44.5%	55.5%
8	Consol. Edison	ED	50.9%	49.1%	40.1%	59.9%
9	DTE Energy	DTE	61.9%	38.1%	42.3%	57.7%
10	Duke Energy	DUK	58.6%	41.4%	46.6%	53.4%
11	Edison Int'l	EIX	68.7%	31.3%	52.6%	47.4%
12	Entergy Corp.	ETR	61.1%	38.9%	50.3%	49.7%
13	Fortis Inc.	FTS	57.5%	42.5%	50.1%	49.9%
14	IDACORP Inc.	IDA	48.9%	51.1%	36.4%	63.6%
15	MGE Energy	MGEE	35.7%	64.3%	17.4%	82.6%
16	Northwestern Corp.	NWE	49.2%	50.8%	46.3%	53.7%
17	Pinnacle West Capital	PNW	55.0%	45.0%	47.0%	53.0%
18	Portland General	POR	55.8%	44.2%	48.1%	51.9%
19	Public Serv. Enterprise	PEG	53.5%	46.5%	33.8%	66.2%
20	WEC Energy Group	WEC	56.5%	43.5%	36.2%	63.8%
21	Xcel Energy Inc.	XEL	58.6%	41.4%	45.5%	54.5%
22	Average		54.8%	45.2%	42.3%	57.7%
23	Max		68.7%	64.3%	52.6%	82.6%
24	Min		35.7%	31.3%	17.4%	47.4%
25	Median		55.8%	44.2%	44.5%	55.5%
26	Liberty Utilities (Calpeco) Corp.	Proforma	47.5%	52.5%	N/A	N/A

[1] Value Line Analyzer Data (Weekly as of May 1, 2024)

Liberty Utilities (Calpeco) Corp.
Comparisons of Past and Future Estimates of Growth

Exhibit TJB-4
Table 4
Witness: Bourassa

Line No.	Company	Symbol	[1] Stock Price[1]	[2] Book Value[2]	[3] EPS[2]	[4] DPS[2]	[5] Historical Average Growth Col. 1-4	[6] Value Line Projected Growth[2]	[7] Zack's Projected Growth[3]	[8] Yahoo Finance Growth[4]	[9] Average Projected Growth
				Five-year historical annual changes							
1	ALLETE	ALE	-4.31%	3.50%	0.50%	4.00%	0.92%	6.50%	ND	8.10%	7.30%
2	Alliant Energy	LNT	3.96%	6.50%	7.00%	6.50%	5.99%	6.00%	6.10%	6.55%	6.22%
3	Amer. Elec. Power	AEP	1.68%	4.00%	4.00%	6.00%	3.92%	6.50%	5.80%	6.19%	6.16%
4	Ameren Corp.	AEE	2.09%	5.50%	8.00%	5.00%	5.15%	6.00%	6.48%	4.80%	5.76%
5	Avista Corp.	AVA	7.18%	3.50%	1.00%	4.50%	4.05%	5.00%	ND	6.20%	5.60%
6	Black Hills	BKH	-2.99%	6.50%	4.00%	6.00%	3.38%	3.50%	ND	0.70%	2.10%
7	CMS Energy Corp.	CMS	3.18%	8.00%	5.50%	6.50%	5.80%	5.00%	7.38%	7.40%	6.59%
8	Consol. Edison	ED	3.54%	3.50%	2.00%	2.50%	2.88%	6.00%	2.00%	6.09%	4.70%
9	DTE Energy	DTE	3.27%	1.00%	2.00%	4.50%	2.69%	6.00%	6.00%	5.10%	5.70%
10	Duke Energy	DUK	2.37%	1.00%	5.50%	3.00%	2.97%	5.50%	6.28%	6.86%	6.21%
11	Edison Int'l	EIX	4.72%	0.50%	14.00%	5.00%	6.05%	6.00%	ND	7.60%	6.80%
12	Entergy Corp.	ETR	4.44%	6.50%	5.50%	3.00%	4.86%	0.50%	7.46%	6.80%	4.92%
13	Fortis Inc.	FTS	5.25%	4.00%	3.50%	6.00%	4.69%	6.00%	6.00%	1.90%	4.63%
14	IDACORP Inc.	IDA	1.11%	4.50%	3.50%	6.50%	3.90%	5.00%	ND	4.40%	4.70%
15	MGE Energy	MGEE	3.82%	6.00%	6.00%	4.50%	5.08%	7.00%	ND	5.40%	6.20%
16	Northwestern Corp.	NWE	-3.06%	4.00%	0.00%	3.50%	1.11%	4.00%	ND	4.50%	4.25%
17	Pinnacle West Capital	PNW	-3.35%	3.50%	2.00%	5.00%	1.79%	4.00%	7.55%	6.95%	6.17%
18	Portland General	POR	-1.12%	3.00%	3.00%	6.00%	2.72%	6.50%	ND	12.50%	9.50%
19	Public Serv. Enterprise	PEG	3.27%	1.50%	4.00%	4.50%	3.32%	4.50%	6.24%	5.25%	5.33%
20	WEC Energy Group	WEC	3.98%	4.00%	8.00%	7.00%	5.74%	6.50%	7.17%	6.68%	6.78%
21	Xcel Energy Inc.	XEL	4.67%	6.00%	6.50%	6.50%	5.92%	7.00%	6.41%	6.73%	6.71%
22	GROUP AVERAGE		2.08%	4.12%	4.55%	5.05%	3.95%	5.38%	6.22%	6.03%	5.83%

Notes:
[1] Compound annual growth in stock prices ending December 31 through 2023. Data from Yahoo Finance website.
[2] Value Line Analyzer, weekly as of May 1, 2024.
[3] Zack's Investment Research website May 7, 2024.
[4] Yahoo Finance website May 7, 2024.

Liberty Utilities (Calpeco) Corp.
Current Dividend Yields for Water Utility Sample Group

Exhibit TJB-4
Table 5
Witness: Bourassa

Line No.	Company	Symbol	[1] Stock Price (P_0)[1]	[2] Current Dividend (D_0)[1]	[3] Current Dividend Yield (D_0/P_0)	[4] Average Annual Dividend Yield (D_0/P_0)[1,2]
1	ALLETE	ALE	63.10	2.60	4.12%	4.25%
2	Alliant Energy	LNT	51.13	1.81	3.54%	3.48%
3	Amer. Elec. Power	AEP	89.87	3.17	3.53%	3.33%
4	Ameren Corp.	AEE	74.36	2.36	3.17%	2.65%
5	Avista Corp.	AVA	37.75	1.84	4.87%	4.80%
6	Black Hills	BKH	56.74	2.50	4.41%	4.21%
7	CMS Energy Corp.	CMS	62.22	1.95	3.13%	3.31%
8	Consol. Edison	ED	97.50	3.24	3.32%	3.50%
9	DTE Energy	DTE	113.34	3.61	3.19%	2.92%
10	Duke Energy	DUK	102.26	3.98	3.89%	3.81%
11	Edison Int'l	EIX	73.89	2.99	4.05%	4.38%
12	Entergy Corp.	ETR	110.58	4.34	3.92%	4.28%
13	Fortis Inc.	FTS	55.17	2.20	3.99%	3.75%
14	IDACORP Inc.	IDA	96.74	3.20	3.31%	3.13%
15	MGE Energy	MGEE	79.72	1.59	1.99%	2.10%
16	Northwestern Corp.	NWE	51.26	2.56	4.99%	4.68%
17	Pinnacle West Capita	PNW	76.41	3.49	4.57%	4.54%
18	Portland General	POR	44.43	1.88	4.23%	4.08%
19	Public Serv. Enterpris	PEG	71.98	2.28	3.17%	3.71%
20	WEC Energy Group	WEC	83.83	2.91	3.47%	2.98%
21	Xcel Energy Inc.	XEL	55.02	2.08	3.78%	3.27%
22	GROUP AVERAGE				3.75%	3.67%

Notes:
[1] Stock prices as of May 7, 2024. Indicated Dividend from Value Line Analyzer weekly as of May 1, 2024.
[2] Average Annual Dividend is dividends declared per share for a year divided by the average annual price of the stock in the same year, expressed as a percentage. As report by Value Line Analyzer software. For comparison purposes only.

Liberty Utilities (Calpeco) Corp.
Discounted Cash Flow Analysis
DCF Constant Growth

Exhibit TJB-4
Table 6
Witness: Bourassa

Line No.	Company	Symbol	[1] Dividend Yield (D_0/P_0)[1]	[2] Expected Dividend Yield (D_1/P_0)[2]		[3] Average Projected Growth (g)[3]		[4] Indicated Cost of Equity (COE) k=Div Yld + g (Cols 2+3)	[5] Adjusted Indicated Cost of Equity (COE)[4]
1	ALLETE	ALE	4.12%	4.27%	+	7.30%	=	11.6%	11.6%
2	Alliant Energy	LNT	3.54%	3.65%	+	6.22%	=	9.9%	9.9%
3	Amer. Elec. Power	AEP	3.53%	3.64%	+	6.16%	=	9.8%	9.8%
4	Ameren Corp.	AEE	3.17%	3.27%	+	5.76%	=	9.0%	9.0%
5	Avista Corp.	AVA	4.87%	5.01%	+	5.60%	=	10.6%	10.6%
6	Black Hills	BKH	4.41%	4.45%	+	2.10%	=	6.6%	
7	CMS Energy Corp.	CMS	3.13%	3.24%	+	6.59%	=	9.8%	9.8%
8	Consol. Edison	ED	3.32%	3.40%	+	4.70%	=	8.1%	8.1%
9	DTE Energy	DTE	3.19%	3.28%	+	5.70%	=	9.0%	9.0%
10	Duke Energy	DUK	3.89%	4.01%	+	6.21%	=	10.2%	10.2%
11	Edison Int'l	EIX	4.05%	4.18%	+	6.80%	=	11.0%	11.0%
12	Entergy Corp.	ETR	3.92%	4.02%	+	4.92%	=	8.9%	8.9%
13	Fortis Inc.	FTS	3.99%	4.08%	+	4.63%	=	8.7%	8.7%
14	IDACORP Inc.	IDA	3.31%	3.39%	+	4.70%	=	8.1%	8.1%
15	MGE Energy	MGEE	1.99%	2.06%	+	6.20%	=	8.3%	8.3%
16	Northwestern Corp.	NWE	4.99%	5.10%	+	4.25%	=	9.4%	9.4%
17	Pinnacle West Capital	PNW	4.57%	4.71%	+	6.17%	=	10.9%	10.9%
18	Portland General	POR	4.23%	4.43%	+	9.50%	=	13.9%	13.9%
19	Public Serv. Enterprise	PEG	3.17%	3.25%	+	5.33%	=	8.6%	8.6%
20	WEC Energy Group	WEC	3.47%	3.59%	+	6.78%	=	10.4%	10.4%
21	Xcel Energy Inc.	XEL	3.78%	3.91%	+	6.71%	=	10.6%	10.6%
22	Average		3.75%	3.85%	+	5.83%	=	9.7%	9.8%

[1] Spot Dividend Yield = D_0/P_0. Source Table 5.

[2] Expected Dividend Yield = $D_1/P_0 = D_0/P_0 * (1+g/2)$.

[3] Growth (g). Source Table 4.

[4] Excludes results less than the forecast yield on Baa bonds plus 100 basis points or 7.0% . See testimony.

Liberty Utilities (Calpeco) Corp.
Forecasts of Long-Term Interest Rates

Exhibit TJB-4
Table 7
Witness: Bourassa

Line No.		2025	2026	2027	Average	Recommended Risk-free Rate for CAPM and MRP
1	Long-term Treasury Rates					
2	Blue Chip Consensus Forecasts[1]	4.1%	4.1%	4.1%		
3	Value Line[2]					
4	Average	4.1%	4.1%	4.1%	4.1%	4.1%
5	Aaa Corporate Bonds					
6	Blue Chip Consensus Forecasts[1]	5.0%	4.9%	4.9%		
7	Value Line[2]					
8	Average	5.0%	4.9%	4.9%	4.9%	
9	Baa Corporate Bonds					
10	Blue Chip Consensus Forecasts[1]	6.0%	6.0%	6.0%		
11	Value Line[2]					
12	Average	6.0%	6.0%	6.0%	6.0%	

Notes:
[1] Blue Chip Financial Forecast (December 2023).
[2] Not Available

Liberty Utilities (Calpeco) Corp.
Risk Premium Analysis Based on Proxy Group Total Returns

Exhibit TJB-4
Table 8
Witness: Bourassa

Line No.		Proxy Group Return[1]	LT Treasury Bond Yield[2]	Risk Premium
1	1983	11.42%	11.97%	-0.55%
2	1984	28.58%	11.70%	16.88%
3	1985	33.67%	9.56%	24.11%
4	1986	-9.88%	7.89%	-17.77%
5	1987	24.32%	9.20%	15.12%
6	1988	28.40%	9.19%	19.21%
7	1989	-0.03%	8.16%	-8.19%
8	1990	30.64%	8.44%	22.20%
9	1991	9.91%	7.30%	2.61%
10	1992	10.94%	7.26%	3.68%
11	1993	-10.38%	6.54%	-16.92%
12	1994	30.73%	7.99%	22.74%
13	1995	4.14%	6.03%	-1.89%
14	1996	32.13%	6.73%	25.40%
15	1997	10.17%	6.02%	4.15%
16	1998	-19.66%	5.42%	-25.08%
17	1999	41.09%	6.82%	34.27%
18	2000	-2.47%	5.58%	-8.05%
19	2001	-15.88%	5.75%	-21.63%
20	2002	30.37%	4.84%	25.53%
21	2003	13.52%	5.11%	8.41%
22	2004	12.78%	4.84%	7.94%
23	2005	21.50%	4.61%	16.89%
24	2006	21.50%	4.91%	16.59%
25	2007	7.65%	4.50%	3.15%
26	2008	-22.17%	3.03%	-25.20%
27	2009	16.48%	4.58%	11.90%
28	2010	14.15%	4.14%	10.01%
29	2011	19.42%	2.55%	16.87%
30	2012	5.12%	2.46%	2.66%
31	2013	15.35%	3.78%	11.57%
32	2014	30.21%	2.46%	27.75%
33	2015	-2.50%	2.68%	-5.18%
34	2016	21.78%	2.72%	19.06%
35	2017	14.47%	2.89%	11.58%
36	2018	3.01%	3.11%	-0.10%
37	2019	25.30%	2.58%	22.72%
38	2020	-7.03%	1.56%	-8.59%
39	2021	14.80%	2.06%	12.74%
40	2022	1.37%	3.11%	-1.74%
41	2023	-4.35%	4.09%	-8.44%
42	Average 1983-2023	12.0%	5.5%	6.5%
43		Expected Long-term Treasury Bond Rate[3]		4.1%
44		Estimate of Current Risk Premium[4]		7.2%
45		Projected Returns on Equity for Sample		11.3%

Notes:
[1] Computed Composite Proxy Group Total Returns.
[2] Average annual 30 Yr. U.S. Treasury Bond yields as reported by the Federal Reserve.
Proxy for yields from 2003-2005 are based upon 20-year U.S. Treasury yield.
[3] Forecast LT U.S. Treasury Rate. Source Table 7.
[4] As explained in testimony, adjustment assumes equity costs change by 50% as much as interest rates.

Liberty Utilities (Calpeco) Corp.
Risk Premium Analysis Based on Averages of
Annual DCF Equity Cost Estimates 2013-2022

Exhibit TJB-4
Table 9
Witness: Bourassa

Line No.	Year	Dividend Yield (D_0/P_0)[1]	Average Projected Growth (g)[2]	DCF Expected Dividend Yield (D_1/P_0)[3]	DCF Equity Cost Estimate	30-Yr Treasury Rate[4]	Risk Premium
1	2014	3.89%	4.76%	3.98%	8.74%	3.34%	5.40%
2	2015	3.62%	5.21%	3.72%	8.93%	2.84%	6.09%
3	2016	3.85%	4.93%	3.94%	8.87%	2.59%	6.28%
4	2017	3.37%	4.85%	3.45%	8.30%	2.89%	5.41%
5	2018	3.19%	5.38%	3.28%	8.65%	3.11%	5.54%
6	2019	3.38%	5.35%	3.48%	8.83%	2.58%	6.25%
7	2020	3.06%	5.03%	3.13%	8.16%	1.56%	6.60%
8	2021	3.38%	6.03%	3.48%	9.50%	2.06%	7.44%
9	2022	3.48%	5.42%	3.58%	9.00%	3.11%	5.89%
10	2023	3.39%	5.23%	3.47%	8.70%	4.09%	4.61%
11				10-Year Average			5.95%
12				5-Year Average			6.16%
13				Mid-point			6.05%
12				Average of Forecast Treasury Rates[5]			4.10%
13				Projected Return on Equity			10.2%

Notes:
[1] Average annual dividend of proxy group as reported by Value Line Investment Analyzer at end of each year.
[2] Value Line estimates of EPS growth of proxy group as reported by Value Line Investment Analyzer at end of year.
[3] Expected Dividend Yield = $D_1/P_0 = D_0/P_0 * (1+g/2)$.
[4] Average annual 30 Yr. U.S. Treasury Bond yields as reported by the Federal Reserve.
Yields for 2003-2005 are based upon 20-year U.S. Treasury
[5] Forecast LT U.S. Treasurey Rate. Source Table 7..

Liberty Utilities (Calpeco) Corp.
Estimation of Current Market Risk Premium
Using DCF Analysis

Exhibit TJB-4
Table 10
Witness: Bourassa

Line No.	Month	Dividend Yield (D_0/P_0)[1]	Expected Dividend Yield (D_1/P_0)[2]	+	Expected Growth (g)[3]	=	Expected Market Return (k)	-	Monthly Average 30 Year Treasury Rate[4]	=	Expected Market Risk Premium (MRP)
1	Jan 2023	2.55%	2.78%	+	8.83%	=	11.61%		3.66%	=	7.95%
2	Feb	2.66%	2.89%	+	8.83%	=	11.73%		3.80%	=	7.93%
3	Mar	2.86%	3.10%	+	8.33%	=	11.43%		3.77%	=	7.66%
4	Apr	2.92%	3.16%	+	8.17%	=	11.33%		3.68%	=	7.65%
5	May	2.92%	3.16%	+	8.17%	=	11.33%		3.86%	=	7.47%
6	Jun	2.81%	3.03%	+	8.00%	=	11.03%		3.87%	=	7.16%
7	July	2.81%	3.03%	+	8.00%	=	11.03%		3.96%	=	7.07%
8	Aug	2.77%	3.00%	+	8.17%	=	11.17%		4.28%	=	6.89%
9	Sep	2.93%	3.16%	+	8.00%	=	11.16%		4.47%	=	6.69%
10	Oct	3.05%	3.29%	+	8.00%	=	11.29%		4.95%	=	6.34%
11	Nov	2.88%	3.11%	+	8.00%	=	11.11%		4.66%	=	6.45%
12	Dec	2.78%	3.00%	+	7.83%	=	10.84%		4.14%	=	6.70%
13	Jan 2024	2.76%	2.98%	+	7.83%	=	10.81%		4.26%	=	6.55%
14	Feb	2.75%	2.97%	+	7.83%	=	10.80%		4.38%	=	6.42%
15	Mar	2.64%	2.84%	+	7.50%	=	10.34%		4.36%	=	5.98%
16	Apr	2.75%	2.96%	+	7.50%	=	10.46%		4.66%	=	5.80%
17	Recommended	2.71%	2.92%	+	7.61%	=	10.53%	-	4.47%	=	6.06%
18	Short-term Trends										
19	Recent Twelve Months Avg	2.82%	3.04%	+	7.90%	=	10.95%	-	4.32%	=	6.63%
20	Recent Nine Months Avg	2.81%	3.03%	+	7.85%	=	10.89%	-	4.46%	=	6.42%
21	Recent Six Months Avg	2.76%	2.97%	+	7.75%	=	10.72%	-	4.41%	=	6.31%
22	Recent Three Months Avg	2.71%	2.92%	+	7.61%	=	10.53%	-	4.47%	=	6.06%

Notes:
[1] Average Dividend Yield (D_0/P_0) of dividend paying stocks. Data from Value Line Investment Analyzer Software Data - Value Line 1700 Stocks
[2] Expected Dividend Yield (D_1/P_0) equals current average dividend yield (D_0/P_0) times one plus growth rate(g).
[3] Median of Projected EPS and Projected DPS Growth for VL 1700 stocks. Data from Value Line Investment Analyzer Software.
[4] Monthly average 30 year U.S. Treasury as reported by Federal Reserve.

Liberty Utilities (Calpeco) Corp.
Capital Asset Pricing Model (CAPM)

Exhibit TJB-4
Table 11
Witness: Bourassa

Line No.		R_f[1]	+ (	(beta[2]	x	RP_M[3]	)			=	k
1	Traditional CAPM	4.1%	+ (	0.90	x	6.62%	)			=	10.1%
2											
3		R_f[1]		RP_M[3] x .25	+ (	(beta[2]	x	RP_M[3]	) x .75		
4	Empirical CAPM	4.1%	+	6.62%	x .25 + (	0.90	x	6.62%	) x .75	=	10.2%
5											
6		R_f[1]	+ (	beta[2]	x	RP_M[4]	) +	RP_s[5]			
7	Modified CAPM	4.1%	+ (	0.87	x	5.94%	) +	1.87%		=	11.1%
8											
9											
10	Average										10.5%

Notes:

[1] Forecasts of long-term treasury yields. Source Table 7.

[2] Average VL Beta of Proxy Group. Source is Table 2.

[3] Estimate of Market Risk Premium (MRP):

Historical MRP (1926-2023)	7.17%	Source is Kroll 2023 CRSP Decile Size Study - Supplementary Exhibits.
Current MRP	6.06%	Source is Table 10
Average MRP	6.62%	

[4] Estimate of Market Risk Premium (MRP):

Historical MRP (1963-2023)	5.82%	Source is Kroll 2023 CRSP Decile Size Study - Supplementary Exhibits.
Current MRP	6.06%	Source is Table 10
Average MRP	5.94%	

[5] Size Premium. Sources Exhibit TJB-COC-DT6, page 4.

Exhibit TJB-5

Operating Income EBIT ($ in millions)

Line No.	Symbol	Symbol	VL Industy	2023	2022	2021	2020	2019	2018	5-Year Average	Std Dev.	Co-efficient of variation of Operating Income (CVOI)
1	ALLETE	ALE	UTILCENT	$ 204.6	$ 151.3	$ 150.9	$ 179.8	$ 201.2	$ 229.8	$ 177.6	25.96	0.1462
2	Alliant Energy	LNT	UTILCENT	928.0	795.0	740.0	777.7	694.4	671.2	787.02	87.77	0.1115
3	Amer. Elec. Power	AEP	UTILCENT	3,682.8	3,411.3	2,987.7	2,716.3	2,682.7	3,344.1	3,096.16	438.88	0.1418
4	Ameren Corp.	AEE	UTILCENT	1,515.0	1,333.0	1,300.0	1,267.0	1,357.0	1,458.0	1,354.40	95.99	0.0709
5	Avista Corp.	AVA	UTILWEST	201.8	228.2	232.7	210.4	261.1	284.5	226.85	22.95	0.1012
6	Black Hills	BKH	UTILWEST	455.3	409.4	428.3	406.0	397.0	416.7	419.21	23.14	0.0552
7	CMS Energy Corp.	CMS	UTILCENT	1,224.0	1,146.0	1,362.0	1,239.0	1,162.0	1,338.0	1,226.60	85.39	0.0696
8	Consol. Edison	ED	UTILEAST	2,369.0	3,278.0	2,974.0	2,676.0	2,664.0	2,609.0	2,792.20	345.72	0.1238
9	DTE Energy	DTE	UTILCENT	2,200.0	1,495.0	1,986.0	1,707.0	1,594.0	1,646.0	1,796.40	290.96	0.1620
10	Duke Energy	DUK	UTILEAST	7,890.0	5,373.0	4,553.0	5,700.6	5,472.0	5,753.0	5,797.72	1,247.28	0.2151
11	Edison Int'l	EIX	UTILWEST	3,081.0	3,013.0	2,565.0	2,384.0	NA	2,209.0	2,760.75	339.83	0.1231
12	Entergy	ETR	UTILCENT	2,050.8	2,185.6	1,769.2	1,390.5	759.9	1,243.4	1,631.19	574.38	0.3521
13	Fortis Inc.	FTS.TO	UTILCENT	2,740.0	2,469.0	2,508.0	2,461.0	2,365.0	2,500.0	2,469.0	139.64	0.0566
14	IDACORP Inc.	IDA	UTILWEST	327.2	329.7	309.5	298.3	296.9	304.4	312.32	15.51	0.0497
15	MGE Energy	MGEE	UTILCENT	137.7	117.3	110.0	110.9	133.6	148.0	121.91	12.96	0.1063
16	Northwestern Corp.	NWE	UTILWEST	263.1	268.8	246.1	276.9	258.2	261.4	262.60	11.54	0.0440
17	Pinnacle West Capital	PNW	UTILWEST	731.9	805.3	788.2	672.0	773.7	934.4	754.20	53.40	0.0708
18	Portland General	POR	UTILWEST	414.0	378.0	396.0	353.0	346.0	376.0	377.40	28.58	0.0757
19	Public Serv. Enterprise	PEG	UTILEAST	2,130.0	2,714.0	2,231.0	2,704.0	2,373.0	2,444.0	2,430.40	268.60	0.1105
20	WEC Energy Group	WEC	UTILCENT	1,924.2	1,714.9	1,706.1	1,531.4	1,468.4	1,785.2	1,669.00	178.73	0.1071
21	Xcel Energy Inc.	XEL	UTILWEST	2,428.0	2,203.0	2,116.0	2,104.0	1,965.0	2,190.0	2,163.20	170.82	0.0790
22	Proxy Group											0.1130
23	**Risk relative of UTILWEST to OTHER utilities**											

		2023	2022	2021	2020	2019	Average	Std Dev.	Co-efficient of variation of Operating Income
24	Company	38.48	19.99	23.29	26.45	17.81	25.20	8.12	0.3220
25	**Risk relative to the average risk of the proxy group and OTHER**								**2.85**

Line No.	Sales ($ in millions) Company	Symbol	VL Industy	2023	2022	2021	2020	2019	2018	5-Year Average
1	ALLETE	ALE	UTILCENT	$ 1,571	$ 1,419	$ 1,169	$ 1,241	$ 1,499	$ 1,419	$ 1,380
2	Alliant Energy	LNT	UTILCENT	4,205	3,669	3,416	3,648	3,535	3,382	3,694
3	Amer. Elec. Power	AEP	UTILCENT	19,640	16,792	14,919	15,561	16,196	15,425	16,621
4	Ameren Corp.	AEE	UTILCENT	7,957	6,394	5,794	5,910	6,291	6,177	6,469
5	Avista Corp.	AVA	UTILWEST	1,710	1,439	1,322	1,346	1,397	1,446	1,443
6	Black Hills	BKH	UTILWEST	2,552	1,949	1,697	1,735	1,754	1,680	1,937
7	CMS Energy Corp.	CMS	UTILCENT	8,596	7,329	6,680	6,845	6,873	6,583	7,265
8	Consol. Edison	ED	UTILEAST	15,670	13,676	12,246	12,574	12,337	12,033	13,301
9	DTE Energy	DTE	UTILCENT	19,228	14,964	12,177	12,669	14,212	12,607	14,650
10	Duke Energy	DUK	UTILEAST	28,768	25,097	23,868	25,079	24,521	23,565	25,467
11	Edison Int'l	EIX	UTILWEST	17,220	14,905	13,578	12,347	12,657	12,320	14,141
12	Entergy	ETR	UTILCENT	13,764	11,743	10,114	10,879	11,009	11,074	11,502
13	Fortis Inc.	FTS.TO	UTILCENT	11,043	9,448	8,935	8,783	8,390	8,301	9,320
14	IDACORP Inc.	IDA	UTILWEST	1,644	1,458	1,351	1,346	1,371	1,349	1,434
15	MGE Energy	MGEE	UTILCENT	715	607	539	569	560	563	598
16	Northwestern Corp.	NWE	UTILWEST	1,478	1,372	1,199	1,258	1,198	1,306	1,301
17	Pinnacle West Capital	PNW	UTILWEST	4,324	3,804	3,587	3,471	3,691	3,565	3,776
18	Portland General	POR	UTILWEST	2,647	2,396	2,145	2,123	1,991	2,009	2,260
19	Public Serv. Enterprise	PEG	UTILEAST	9,800	9,722	9,603	10,076	9,696	9,161	9,779
20	WEC Energy Group	WEC	UTILCENT	9,597	8,316	7,242	7,523	7,680	7,649	8,072
21	Xcel Energy Inc.	XEL	UTILWEST	15,310	13,431	11,526	11,529	11,537	11,404	12,667

		2023	2022	2021	2020	2019	5-Year Average
22	Company	170.16	107.18	101.80	98.57	82.63	112.07

Line No.	Operating Margin (%) Company	Symbol	VL Industy	2023	2022	2021	2020	2019	2018	5-Year Average	Std Dev.	Co-efficient of variation of Operating Margin (CVOM)
1	ALLETE	ALE	UTILCENT	13.03%	10.66%	12.91%	14.49%	13.43%	16.19%	12.90%	0.0140	0.1086
2	Alliant Energy	LNT	UTILCENT	22.07%	21.67%	21.66%	21.32%	19.65%	19.85%	21.27%	0.0095	0.0445
3	Amer. Elec. Power	AEP	UTILCENT	18.75%	20.32%	20.03%	17.46%	16.56%	21.68%	18.62%	0.0162	0.0868
4	Ameren Corp.	AEE	UTILCENT	19.04%	20.85%	22.44%	21.44%	21.57%	23.60%	21.07%	0.0127	0.0602
5	Avista Corp.	AVA	UTILWEST	15.86%	17.60%	15.64%	18.69%	19.68%	19.68%	17.49%	0.0176	0.1004
6	Black Hills	BKH	UTILWEST	17.84%	21.01%	25.24%	23.40%	22.63%	24.80%	22.02%	0.0279	0.1267
7	CMS Energy Corp.	CMS	UTILCENT	14.24%	15.64%	20.39%	18.10%	16.91%	20.33%	17.05%	0.0235	0.1381
8	Consol. Edison	ED	UTILEAST	15.12%	23.97%	24.29%	21.28%	21.59%	21.68%	21.25%	0.0369	0.1734
9	DTE Energy	DTE	UTILCENT	11.44%	9.99%	16.31%	13.47%	11.22%	13.06%	12.49%	0.0248	0.1983
10	Duke Energy	DUK	UTILEAST	27.43%	21.41%	19.08%	22.73%	22.32%	24.41%	22.59%	0.0305	0.1350
11	Edison Int'l	EIX	UTILWEST	17.89%	20.21%	18.89%	19.31%	NA	17.93%	19.08%	0.0096	0.0505
12	Entergy	ETR	UTILCENT	18.61%	17.49%	12.78%	6.90%	11.23%	11.23%	18.61%	0.0478	0.2566
13	Fortis Inc.	FTS.TO	UTILCENT	24.81%	26.13%	28.07%	28.02%	28.19%	30.12%	27.04%	0.0151	0.0559
14	IDACORP Inc.	IDA	UTILWEST	19.90%	22.61%	22.92%	22.16%	21.66%	22.55%	21.85%	0.0119	0.0543
15	MGE Energy	MGEE	UTILCENT	19.28%	19.34%	20.42%	19.50%	23.87%	26.29%	20.48%	0.0195	0.0952
16	Northwestern Corp.	NWE	UTILWEST	17.80%	19.59%	20.53%	22.01%	21.55%	20.02%	20.30%	0.0168	0.0828
17	Pinnacle West Capital	PNW	UTILWEST	16.93%	21.17%	21.97%	19.36%	20.96%	26.21%	20.08%	0.0200	0.0997
18	Portland General	POR	UTILWEST	15.64%	15.78%	18.46%	16.63%	17.38%	18.72%	16.78%	0.0117	0.0700
19	Public Serv. Enterprise	PEG	UTILEAST	21.73%	27.92%	23.23%	26.84%	24.47%	26.68%	24.84%	0.0254	0.1023
20	WEC Energy Group	WEC	UTILCENT	20.05%	20.62%	23.56%	20.36%	19.12%	23.34%	20.74%	0.0167	0.0807
21	Xcel Energy Inc.	XEL	UTILWEST	15.86%	16.40%	18.36%	18.25%	17.03%	19.20%	17.18%	0.0111	0.0645
22	Proxy Group			18.25%	19.54%	20.34%	19.61%	19.55%		19.70%	0.0200	0.1040

23 **Risk relative of UTILWEST to OTHER utilities**

		2023	2022	2021	2020	2019	Average	Std Dev.	Co-efficient of variation of Operating Margin
24	Company	22.61%	18.65%	22.88%	26.84%	21.55%	22.51%	0.03	0.1511

25 **Risk relative to the average risk of the proxy group and OTHER** **1.45**

Line No.	Company	Symbol	VL Industy	Return on Equity (ROE) 2023	2022	2021	2020	2019	Average	Std Dev.	Co-efficient of variation of ROE (CVROE)
1	ALLETE	ALE	UTILCENT	7.0%	7.0%	7.6%	7.7%	8.1%	7.5%	0.0046	0.0615
2	Alliant Energy	LNT	UTILCENT	10.9%	11.0%	10.8%	10.7%	11.2%	10.9%	0.0021	0.0190
3	Amer. Elec. Power	AEP	UTILCENT	9.7%	11.1%	10.7%	10.3%	10.1%	10.4%	0.0055	0.0532
4	Ameren Corp.	AEE	UTILCENT	10.2%	10.2%	9.7%	10.3%	10.7%	10.2%	0.0033	0.0325
5	Avista Corp.	AVA	UTILWEST	6.6%	6.8%	6.4%	10.2%	7.7%	7.5%	0.0154	0.2044
6	Black Hills	BKH	UTILWEST	8.6%	8.5%	9.1%	9.1%	8.8%	8.8%	0.0027	0.0303
7	CMS Energy Corp.	CMS	UTILCENT	12.1%	11.6%	13.7%	13.6%	13.8%	13.0%	0.0102	0.0783
8	Consol. Edison	ED	UTILEAST	7.8%	7.6%	7.4%	8.0%	8.5%	7.9%	0.0041	0.0526
9	DTE Energy	DTE	UTILCENT	10.4%	9.1%	11.0%	10.0%	10.9%	10.3%	0.0077	0.0743
10	Duke Energy	DUK	UTILEAST	8.6%	8.5%	8.2%	8.3%	7.6%	8.2%	0.0038	0.0463
11	Edison Int'l	EIX	UTILWEST	12.9%	12.5%	12.0%	12.0%	-3.9%	9.1%	0.0730	0.8015
12	Entergy	ETR	UTILCENT	8.4%	11.9%	12.7%	12.1%	12.2%	11.5%	0.0175	0.1531
13	Fortis Inc.	FTS.TO	UTILCENT	6.9%	7.0%	7.1%	6.9%	7.2%	7.0%	0.0012	0.0178
14	IDACORP Inc.	IDA	UTILWEST	9.2%	9.2%	9.3%	9.4%	9.6%	9.3%	0.0016	0.0169
15	MGE Energy	MGEE	UTILCENT	10.3%	10.3%	9.5%	10.2%	10.3%	10.1%	0.0036	0.0353
16	Northwestern Corp.	NWE	UTILWEST	7.0%	7.8%	7.8%	8.8%	8.8%	8.0%	0.0078	0.0974
17	Pinnacle West Capital	PNW	UTILWEST	8.0%	10.5%	9.8%	9.9%	9.8%	9.6%	0.0094	0.0976
18	Portland General	POR	UTILWEST	8.8%	9.0%	9.5%	8.3%	8.5%	8.8%	0.0047	0.0533
19	Public Serv. Enterprise	PEG	UTILEAST	12.7%	12.8%	10.9%	11.0%	11.0%	11.7%	0.0093	0.0796
20	WEC Energy Group	WEC	UTILCENT	12.4%	11.9%	11.5%	11.2%	10.8%	11.6%	0.0061	0.0526
21	Xcel Energy Inc.	XEL	UTILWEST	10.4%	10.2%	10.1%	10.4%	10.3%	10.3%	0.0012	0.0117
22	Proxy Group			9.5%	9.7%	9.7%	9.9%	9.1%	9.6%	0.0093	0.0985

23 **Risk relative of UTILWEST to OTHER utilities**

		2023	2022	2021	2020	2019	5-Year Average	Std Dev.	Co-efficient of variation of ROE
24	Company	8.8%	6.6%	8.8%	12.1%	6.3%	8.50%	0.02	0.2761

25 **Risk relative to the average risk of the proxy group and OTHER** **2.80**

Operating Leverage = Percent Change in Operating Income/Percent Change in Sales
(also a measure of business risk)

Line No.	Company	Symbol	2023	2022	2021	2020	2019	5-Year Average
1	ALLETE	ALE	3.30	0.01	2.79	0.62	2.23	1.79
2	Alliant Energy	LNT	1.15	1.00	0.76	3.75	0.77	1.49
3	Amer. Elec. Power	AEP	0.47	1.13	2.42	0.32	3.96	1.66
4	Ameren Corp.	AEE	0.56	0.25	1.33	1.10	3.75	1.40
5	Avista Corp.	AVA	0.61	0.22	6.01	5.29	2.43	2.91
6	Black Hills	BKH	0.36	0.30	2.51	2.05	1.07	1.26
7	CMS Energy Corp.	CMS	0.39	1.63	4.12	16.27	2.99	5.08
8	Consol. Edison	ED	1.90	0.88	4.27	0.23	0.83	1.62
9	DTE Energy	DTE	1.65	1.08	4.21	0.65	0.25	1.57
10	Duke Energy	DUK	3.20	3.50	4.17	1.84	1.20	2.78
11	Edison Int'l	EIX	0.15	1.79	0.76	NA	NA	0.90
12	Entergy	ETR	0.36	1.46	3.87	69.87	66.23	28.36
13	Fortis, Inc.	FTS.TO	0.65	0.27	1.10	0.87	5.04	1.59
14	IDACORP Inc.	IDA	0.06	0.82	11.62	0.27	1.55	2.86
15	MGE Energy	MGEE	0.98	0.53	0.16	10.47	16.46	5.72
16	Northwestern Corp.	NWE	0.28	0.64	2.36	1.45	0.15	0.97
17	Pinnacle West Capital	PNW	0.67	0.36	5.18	2.21	4.87	2.66
18	Portland General	POR	0.91	0.39	11.75	0.31	8.91	4.45
19	Public Serv. Enterprise	PEG	26.82	17.47	3.73	3.56	0.50	10.41
20	WEC Energy Group	WEC	0.79	0.03	3.05	2.11	43.78	9.95
21	Xcel Energy Inc.	XEL	0.73	0.25	21.92	102.01	8.81	26.74
22	Average		2.19	1.62	4.67	11.26	8.79	5.53

		2023	2022	2021	2020	2019	Average
23	Liberty Utilities (Calpeco) Corp.	1.57	2.69	3.64	2.52	5.10	3.10
24	**Risk relative to the average risk of the proxy group**						**0.56**

Liberty Utilities (Calpeco) Corp.
Comparative Risk Study
Beta Estimate Using Duff and Phelps Risk Study Portfolio Information

A. Beta Estimates for Proxy Group and Company`

Line No.		Portfolio	Operating Margin[1]	Portfolio	CV (Operating Margin)[1]	Portfolio	CV (ROE)[1]	
1	Company	22	22.51%	12	15.11%	7	27.61%	
2	Proxy Group	21	19.70%	8	10.40%	2	9.85%	
			Portfolio Sum Beta[2]		Portfolio Sum Beta[3]		Portfolio Sum Beta[4]	Average
3	Company		0.90		1.11		1.01	
4	Proxy Group		0.98		1.01		0.83	
5	Percentage Difference		-8.3%		10.0%		21.2%	**7.6%**

B. Assume percentage difference is the same for electric utilities as companies in general

		Value Line Beta	Sum Beta
6	Proxy Group[5]	0.90	0.87
7	Implied Beta for Company[6]	0.97	0.94

Notes:
[1] CV stands for Coefficient of Variation,
[2] Source is Kroll, 2023 Supplementary Risk Study, Companies Ranked by Operating Margin.
[3] Source is Kroll 2023, Supplementary Risk Study, Companies Ranked by CV (Operating Margin).
[4] Source is Kroll 2023, Supplementrary Risk Study, Companies Ranked by CV (Operating Margin).
[5] Source is Table 2.
[6] Calculated by multiplying (1+ percentage difference in risk study betas) times average beta for the proxy group.

Liberty Utilities (Calpeco) Corp.
Capital Asset Pricing Model (CAPM)

Exhibit TJB-5
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Witness: Bourassa

Line No.		R_f[1]	+ (	(beta[2]	x	RP_M[4]	)		=	k	CAPM Results From Table 11	Difference
1	Traditional CAPM	4.1%	+ (	0.97	x	6.62%	)		=	10.5%	10.1%	0.4%
2												
3		R_f[1]		RP_M[4] x .25	+ (	(beta[2]	x	RP_M[3]) x .75				
4	Empirical CAPM	4.1%	+	6.62%	x .25 + (	0.97	x	6.62%) x .75	=	10.6%	10.2%	0.4%
5												
6		R_f[1]	+ (	beta[3]	x	RP_M[4]	) +	RP_s[5]				
7	Modified CAPM	4.1%	+ (	0.94	x	5.94%	) +	1.87%	=	11.5%	11.1%	0.4%
8												
9												
10	Average									10.9%	10.5%	0.4%
11	High											0.4%
12	Low											0.4%

Notes:

[1] Forecasts of long-term treasury yields. Source Table 7.

[2] Average VL Beta of Water Proxy Group. Source is Table 2.

[3] Estimate of Market Risk Premium (MRP):

Historical MRP (1926-2023)	7.17%	Source is Kroll 2023 CRSP Decile Size Study - Supplementary Exhibits.
Current MRP	6.06%	Source is Table 11
Average MRP	6.62%	

[4] Estimate of Market Risk Premium (MRP):

Historical MRP (1963-2023)	5.82%	Source is Kroll 2023 CRSP Decile Size Study - Supplementary Exhibits.
Current MRP	6.06%	Source is Table 11
Average MRP	5.94%	

[5] Size Premium. Sources Exhibit TJB-COC-DT2, page 1.

Exhibit TJB-6

			Measures of size						
						(Millions)			
Line			MV	Book		5 Yr Avg.	Total	5 Yr Avg.	
No.	Company	Symbol	Equity[1]	Equity[1]	MVIC[1]	Net Income[1]	Assets[1]	EBITDA[1]	Sales
1	ALLETE	ALE	$ 3,470	$ 2,690	$ 5,118	$ 176	$ 6,846	$ 398	$ 1,419
2	Alliant Energy	LNT	$ 12,897	$ 6,776	$ 21,122	$ 615	$ 21,237	$ 1,390	$ 3,669
3	Amer. Elec. Power	AEP	$ 46,456	$ 23,896	$ 80,083	$ 2,188	$ 93,469	$ 5,928	$ 16,792
4	Ameren Corp.	AEE	$ 19,583	$ 10,509	$ 33,268	$ 920	$ 37,904	$ 2,568	$ 6,394
5	Avista Corp.	AVA	$ 2,861	$ 2,486	$ 5,467	$ 153	$ 7,703	$ 451	$ 1,439
6	Black Hills	BKH	$ 3,792	$ 3,216	$ 7,593	$ 227	$ 9,620	$ 651	$ 1,949
7	CMS Energy Corp.	CMS	$ 18,167	$ 7,319	$ 32,737	$ 736	$ 33,517	$ 2,269	$ 7,329
8	Consol. Edison	ED	$ 32,745	$ 21,156	$ 54,672	$ 1,482	$ 66,331	$ 4,618	$ 13,676
9	DTE Energy	DTE	$ 23,038	$ 10,395	$ 39,911	$ 1,107	$ 42,683	$ 3,196	$ 14,964
10	Duke Energy	DUK	$ 76,930	$ 47,363	$ 143,991	$ 3,854	$ 178,086	$ 11,171	$ 25,097
11	Edison Int'l	EIX	$ 27,366	$ 13,828	$ 57,682	$ 1,426	$ 81,758	$ 4,431	$ 14,905
12	Entergy	ETR	$ 22,771	$ 14,619	$ 45,779	$ 1,253	$ 59,703	$ 3,814	$ 11,743
13	Fortis Inc.	FTS.TO	$ 26,210	$ 19,380	$ 52,477	$ 1,267	$ 64,252	$ 3,962	$ 9,448
14	IDACORP Inc.	IDA	$ 4,858	$ 2,906	$ 7,633	$ 240	$ 8,476	$ 487	$ 1,458
15	MGE Energy	MGEE	$ 2,855	$ 1,083	$ 3,458	$ 96	$ 2,518	$ 195	$ 607
16	Northwestern Corp.	NWE	$ 3,115	$ 2,783	$ 5,805	$ 14	$ 7,601	$ 35	$ 1,372
17	Pinnacle West Capital	PNW	$ 8,500	$ 6,177	$ 16,041	$ 541	$ 24,661	$ 1,462	$ 3,804
18	Portland General	POR	$ 4,525	$ 3,320	$ 8,719	$ 232	$ 11,208	$ 791	$ 2,396
19	Public Serv. Enterprise	PEG	$ 34,835	$ 15,478	$ 52,619	$ 1,716	$ 50,741	$ 3,816	$ 9,722
20	WEC Energy Group	WEC	$ 26,052	$ 11,376	$ 40,818	$ 1,221	$ 41,872	$ 2,658	$ 8,316
21	Xcel Energy Inc.	XEL	$ 29,873	$ 17,613	$ 54,786	$ 1,488	$ 64,079	$ 4,279	$ 13,431
22	Liberty Utilities (Calpeco) Corp.		N/A	$ 367.6	N/A	$ 31.0	$ 1,055.5	$ 40.4	$ 83.7

[1] From Value Line Analyzer

Line No.	Net Income Data ($ millions) Company	Symbol	2023	2022	2021	2020	2019	5-Year Average
1	ALLETE	ALE	$ 189.3	$ 169.2	$ 174.2	$ 172.4	$ 174.1	$ 175.8
2	Alliant Energy	LNT	$ 686.0	$ 674.0	$ 624.0	$ 567.4	$ 522.3	$ 614.7
3	Amer. Elec. Power	AEP	$ 2,307.2	$ 2,488.1	$ 2,200.1	$ 2,019.0	$ 1,923.8	$ 2,187.6
4	Ameren Corp.	AEE	$ 1,074.0	$ 995.0	$ 877.0	$ 834.0	$ 821.0	$ 920.2
5	Avista Corp.	AVA	$ 155.2	$ 147.3	$ 129.5	$ 197.0	$ 136.4	$ 153.1
6	Black Hills	BKH	$ 258.4	$ 236.7	$ 232.9	$ 214.5	$ 192.5	$ 227.0
7	CMS Energy Corp.	CMS	$ 833.0	$ 751.0	$ 757.0	$ 682.0	$ 659.0	$ 736.4
8	Consol. Edison	ED	$ 1,620.0	$ 1,528.0	$ 1,399.0	$ 1,438.0	$ 1,424.0	$ 1,481.8
9	DTE Energy	DTE	$ 1,083.0	$ 796.0	$ 1,368.0	$ 1,169.0	$ 1,120.0	$ 1,107.2
10	Duke Energy	DUK	$ 4,175.0	$ 4,133.0	$ 3,878.0	$ 3,747.0	$ 3,339.0	$ 3,854.4
11	Edison Int'l	EIX	$ 1,977.0	$ 1,907.0	$ 1,818.0	$ 1,716.0	$ (290.0)	$ 1,425.6
12	Entergy	ETR	$ 1,103.2	$ 1,402.8	$ 1,406.7	$ 1,258.2	$ 1,092.1	$ 1,252.6
13	Fortis Inc.	FTS.TO	$ 1,394.0	$ 1,294.0	$ 1,274.0	$ 1,238.0	$ 1,136.0	$ 1,267.2
14	IDACORP Inc.	IDA	$ 259.0	$ 245.6	$ 237.4	$ 232.9	$ 226.8	$ 240.3
15	MGE Energy	MGEE	$ 111.0	$ 105.8	$ 92.4	$ 86.9	$ 84.2	$ 96.0
16	Northwestern Corp.	NWE	$ 12.6	$ 13.2	$ 13.6	$ 14.3	$ 14.3	$ 13.6
17	Pinnacle West Capital	PNW	$ 483.6	$ 618.7	$ 550.6	$ 538.3	$ 511.1	$ 540.5
18	Portland General	POR	$ 245.0	$ 244.0	$ 247.0	$ 214.0	$ 212.0	$ 232.4
19	Public Serv. Enterprise	PEG	$ 1,739.0	$ 1,853.0	$ 1,741.0	$ 1,666.0	$ 1,582.0	$ 1,716.2
20	WEC Energy Group	WEC	$ 1,409.3	$ 1,301.5	$ 1,201.1	$ 1,134.2	$ 1,060.5	$ 1,221.3
21	Xcel Energy Inc.	XEL	$ 1,736.0	$ 1,597.0	$ 1,473.0	$ 1,372.0	$ 1,261.0	$ 1,487.8
22	Liberty Utilities (Calpeco) Corp.		$ 34.4	$ 23.4	$ 29.3	$ 36.8	$ 19.6	$ 31.0

Net Income data for publicly traded water utilities from Value Line, Zacks Investment Research, 10K, and/or Yahoo Finance

Line No.	EBITDA Data ($ millions) Company	Symbol	2023	2022	2021	2020	2019	5-Year Average
1	ALLETE	ALE	$ 447	$ 383	$ 369	$ 382	$ 407	$ 398
2	Alliant Energy	LNT	$ 1,599	$ 1,452	$ 1,355	$ 1,345	$ 1,201	$ 1,390
3	Amer. Elec. Power	AEP	$ 6,886	$ 6,458	$ 5,895	$ 5,320	$ 5,083	$ 5,928
4	Ameren Corp.	AEE	$ 2,953	$ 2,633	$ 2,475	$ 2,367	$ 2,410	$ 2,568
5	Avista Corp.	AVA	$ 457	$ 463	$ 460	$ 421	$ 454	$ 451
6	Black Hills	BKH	$ 716	$ 652	$ 661	$ 623	$ 601	$ 651
7	CMS Energy Corp.	CMS	$ 2,350	$ 2,260	$ 2,410	$ 2,231	$ 2,095	$ 2,269
8	Consol. Edison	ED	$ 4,425	$ 5,310	$ 4,894	$ 4,360	$ 4,102	$ 4,618
9	DTE Energy	DTE	$ 3,710	$ 3,012	$ 3,466	$ 3,030	$ 2,763	$ 3,196
10	Duke Energy	DUK	$ 13,733	$ 11,036	$ 10,039	$ 10,877	$ 10,168	$ 11,171
11	Edison Int'l	EIX	$ 5,928	$ 5,516	$ 4,930	$ 4,339	$ 1,444	$ 4,431
12	Entergy	ETR	$ 4,241	$ 4,429	$ 4,027	$ 3,573	$ 2,800	$ 3,814
13	Fortis Inc.	FTS.TO	$ 4,408	$ 3,974	$ 3,936	$ 3,811	$ 3,679	$ 3,962
14	IDACORP Inc.	IDA	$ 501	$ 509	$ 485	$ 472	$ 466	$ 487
15	MGE Energy	MGEE	$ 223	$ 194	$ 184	$ 182	$ 190	$ 195
16	Northwestern Corp.	NWE	$ 31	$ 34	$ 36	$ 36	$ 37	$ 35
17	Pinnacle West Capital	PNW	$ 1,550	$ 1,524	$ 1,474	$ 1,336	$ 1,425	$ 1,462
18	Portland General	POR	$ 831	$ 782	$ 850	$ 762	$ 728	$ 791
19	Public Serv. Enterprise	PEG	$ 3,413	$ 4,117	$ 3,700	$ 4,130	$ 3,718	$ 3,816
20	WEC Energy Group	WEC	$ 3,047	$ 2,789	$ 2,682	$ 2,458	$ 2,314	$ 2,658
21	Xcel Energy Inc.	XEL	$ 4,982	$ 4,460	$ 4,198	$ 4,008	$ 3,746	$ 4,279
22	Liberty Utilities (Calpeco) Corp.		$ 56.8	$ 36.0	$ 39.1	$ 40.5	$ 29.9	$ 40.4

Earnings before Interest, Taxes, Depreciation and Amortization (EBITDA). From Value Line Analyzer.

Risk Premium- Size (RP_s) Estimates
Data Smoothing with Regression Analysis
Smoothed Premium (RP_s) = Constant + X Coefficients * Log(Relevent Metric)

Exhibit TJB-6
Size Premium

Line No.			MV Equity (Table B-1)[1]	Book Equity (Table B-2)[1]	MVIC (Table B-4)[1]	5 Yr Avg. Net Income (Table B-3)[1]	Total Assets (Table B-5)[1]	5 Yr Avg. EBITDA (Table B-6)[1]	Sales (Table B-7)	
1										
2	Constant		9.565%	6.281%	9.348%	6.087%	8.035%	6.714%	7.735%	
3	X Coefficient(s)		-1.846%	-1.051%	-1.717%	-1.300%	-1.384%	-1.332%	-1.275%	
4										
5					**RP_s (levered)**					
6			MV	Book		5 Yr Avg.	Total	5 Yr Avg.		
7	Company	Symbol	Equity	Equity	MVIC	Net Income	Assets	EBITDA	Sales	Average
8	ALLETE	ALE	3.03%	2.68%	2.98%	3.17%	2.73%	3.25%	3.72%	3.08%
9	Alliant Energy	LNT	1.98%	2.26%	1.92%	2.46%	2.05%	2.53%	3.19%	2.34%
10	Amer. Elec. Power	AEP	0.95%	1.68%	0.93%	1.74%	1.16%	1.69%	2.35%	1.50%
11	Ameren Corp.	AEE	1.64%	2.06%	1.58%	2.23%	1.70%	2.17%	2.88%	2.04%
12	Avista Corp.	AVA	3.18%	2.71%	2.93%	3.25%	2.66%	3.18%	3.71%	3.09%
13	Black Hills	BKH	2.96%	2.60%	2.69%	3.02%	2.52%	2.97%	3.54%	2.90%
14	CMS Energy Corp.	CMS	1.70%	2.22%	1.60%	2.36%	1.77%	2.25%	2.81%	2.10%
15	Consol. Edison	ED	1.23%	1.74%	1.21%	1.96%	1.36%	1.83%	2.46%	1.69%
16	DTE Energy	DTE	1.51%	2.06%	1.45%	2.13%	1.63%	2.05%	2.41%	1.89%
17	Duke Energy	DUK	0.54%	1.37%	0.49%	1.42%	0.77%	1.32%	2.12%	1.15%
18	Edison Int'l	EIX	1.37%	1.93%	1.17%	1.99%	1.24%	1.86%	2.41%	1.71%
19	Entergy	ETR	1.52%	1.91%	1.35%	2.06%	1.43%	1.95%	2.55%	1.82%
20	Fortis Inc.	FTS.TO	1.41%	1.78%	1.24%	2.05%	1.38%	1.92%	2.67%	1.78%
21	IDACORP Inc.	IDA	2.76%	2.64%	2.68%	2.99%	2.60%	3.14%	3.70%	2.93%
22	MGE Energy	MGEE	3.18%	3.09%	3.27%	3.51%	3.33%	3.67%	4.19%	3.46%
23	Northwestern Corp.	NWE	3.11%	2.66%	2.89%	4.61%	2.67%	4.66%	3.73%	3.48%
24	Pinnacle West Capital	PNW	2.31%	2.30%	2.13%	2.53%	1.96%	2.50%	3.17%	2.41%
25	Portland General	POR	2.82%	2.58%	2.58%	3.01%	2.43%	2.86%	3.43%	2.81%
26	Public Serv. Enterprise	PEG	1.18%	1.88%	1.24%	1.88%	1.52%	1.95%	2.65%	1.76%
27	WEC Energy Group	WEC	1.41%	2.02%	1.43%	2.07%	1.64%	2.15%	2.74%	1.92%
28	Xcel Energy Inc.	XEL	1.30%	1.82%	1.21%	1.96%	1.38%	1.88%	2.47%	1.72%
28	Average		1.96%	2.19%	1.86%	2.50%	1.90%	2.47%	2.99%	2.27%
29	Comparative Risk Study Risk Premium Adjustment (see Comparative Risk Study Adjustment to Size Premium)									-0.40%
30	Proxy Group Adjusted Risk Premium - Size (RP_S).									**1.87%**
31	Liberty Utilities (Calpeco) Corp.		N/A	3.59%	N/A	4.15%	3.85%	4.58%	5.28%	4.29%
32	Comparative Risk Study Risk Premium Adjustment (see Comparative Risk Study Adjustment to Size Premium)									-0.21%
33	Adjusted Risk Premium - Size (RP_S)									4.08%
34	Difference in Adjusted Risk Premium Between Proxy Group and Company									**2.22%**

[1] Source: *Kroll* 2023 Supplementary Data Exhibits (Regression Equations)

Liberty Utilities (Calpeco) Corp.
Comparative Risk Study - Adjustment to Size Premium
Based on *Kroll* 2023 Size Risk Premium Study Data
Step 1 - Identify the equivalent C exhibit for the B exhibits used to compute the size premium.
Step 2 - Indentify the fundamental risk characteristics of the companies of the equivalent portfolio in
Step 3 - Indentify the guideline portfolio in the D exhibit which has the most simliar fundamental risk characteristic found in Step 2 and find the smoothed average risk premium.
Step 4 - Indentify the guideline portfolio in the D exhibit which has the most simliar fundamental risk characteristic to the Company and find the smoothed average risk premium.
Step 5 - The diffence in smoothed average risk premiums is the maxmium indicated risk adjustment.
The range of adjustments may be 0 or at the maximum depending on the circumstances.

			Measures of size (Millions)					
Line No.	Company	Symbol	MV Equity[1]	Book Equity[1]	MVIC[1]	5 Yr Avg. Net Income[1]	Total Assets[1]	5 Yr Avg. EBITDA[1]	Sales
1	ALLETE	ALE	$ 3,470	$ 2,690	$ 5,118	$ 176	$ 6,846	$ 398	$ 1,419
2	Alliant Energy	LNT	$ 12,897	$ 6,776	$ 21,122	$ 615	$ 21,237	$ 1,390	$ 3,669
3	Amer. Elec. Power	AEP	$ 46,456	$ 23,896	$ 80,083	$ 2,188	$ 93,469	$ 5,928	$ 16,792
4	Ameren Corp.	AEE	$ 19,583	$ 10,509	$ 33,268	$ 920	$ 37,904	$ 2,568	$ 6,394
5	Avista Corp.	AVA	$ 2,861	$ 2,486	$ 5,467	$ 153	$ 7,703	$ 451	$ 1,439
6	Black Hills	BKH	$ 3,792	$ 3,216	$ 7,593	$ 227	$ 9,620	$ 651	$ 1,949
7	CMS Energy Corp.	CMS	$ 18,167	$ 7,319	$ 32,737	$ 736	$ 33,517	$ 2,269	$ 7,329
8	Consol. Edison	ED	$ 32,745	$ 21,156	$ 54,672	$ 1,482	$ 66,331	$ 4,618	$ 13,676
9	DTE Energy	DTE	$ 23,038	$ 10,395	$ 39,911	$ 1,107	$ 42,683	$ 3,196	$ 14,964
10	Duke Energy	DUK	$ 76,930	$ 47,363	$ 143,991	$ 3,854	$ 178,086	$ 11,171	$ 25,097
11	Edison Int'l	EIX	$ 27,366	$ 13,828	$ 57,682	$ 1,426	$ 81,758	$ 4,431	$ 14,905
12	Entergy	ETR	$ 22,771	$ 14,619	$ 45,779	$ 1,253	$ 59,703	$ 3,814	$ 11,743
13	Fortis Inc.	FTS.TO	$ 26,210	$ 19,380	$ 52,477	$ 1,267	$ 64,252	$ 3,962	$ 9,448
14	IDACORP Inc.	IDA	$ 4,858	$ 2,906	$ 7,633	$ 240	$ 8,476	$ 487	$ 1,458
15	MGE Energy	MGEE	$ 2,855	$ 1,083	$ 3,458	$ 96	$ 2,518	$ 195	$ 607
16	Northwestern Corp.	NWE	$ 3,115	$ 2,783	$ 5,805	$ 14	$ 7,601	$ 35	$ 1,372
17	Pinnacle West Capital	PNW	$ 8,500	$ 6,177	$ 16,041	$ 541	$ 24,661	$ 1,462	$ 3,804
18	Portland General	POR	$ 4,525	$ 3,320	$ 8,719	$ 232	$ 11,208	$ 791	$ 2,396
19	Public Serv. Enterprise	PEG	$ 34,835	$ 15,478	$ 52,619	$ 1,716	$ 50,741	$ 3,816	$ 9,722
20	WEC Energy Group	WEC	$ 26,052	$ 11,376	$ 40,818	$ 1,221	$ 41,872	$ 2,658	$ 8,316
21	Xcel Energy Inc.	XEL	$ 29,873	$ 17,613	$ 54,786	$ 1,488	$ 64,079	$ 4,279	$ 13,431

[1] From Value Line Analyzer

Liberty Utilities (Calpeco) Corp.
Comparative Risk Study - Adjustment to Size Premium
Based on *Kroll* 2023 Size Risk Premium Study Data

Equivalent C Exhibit Portfolio Operating Margin

Line No.	Company	Symbol	MV Equity (Table C-1)	Book Equity (Table C-2)	MVIC (Table C-4)	5 Yr Avg. Net Income (Table C-3)	Total Assets (Table C-5)	5 Yr Avg. EBITDA (Table C-6)	Sales (Table C-7)	
1	ALLETE	ALE	10.29%	11.33%	30.58%	10.92%	10.98%	10.18%	9.45%	
2	Alliant Energy	LNT	12.17%	12.38%	31.52%	12.32%	12.34%	12.02%	10.27%	
3	Amer. Elec. Power	AEP	13.68%	12.98%	35.99%	13.43%	13.44%	13.63%	10.83%	
4	Ameren Corp.	AEE	12.90%	12.41%	33.07%	12.86%	12.71%	12.45%	9.93%	
5	Avista Corp.	AVA	9.57%	11.24%	30.68%	10.70%	10.97%	10.27%	9.48%	
6	Black Hills	BKH	10.56%	11.55%	31.86%	10.79%	11.70%	11.16%	9.59%	
7	CMS Energy Corp.	CMS	12.90%	12.49%	32.86%	12.77%	12.31%	12.54%	10.18%	
8	Consol. Edison	ED	13.11%	12.86%	35.36%	13.10%	13.02%	12.92%	9.90%	
9	DTE Energy	DTE	12.96%	12.42%	34.77%	12.91%	12.83%	12.36%	10.31%	
10	Duke Energy	DUK	14.01%	14.00%	35.28%	13.85%	14.36%	14.03%	10.23%	
11	Edison Int'l	EIX	13.21%	12.38%	35.66%	13.07%	13.26%	12.81%	9.91%	
12	Entergy	ETR	12.95%	12.43%	34.69%	12.97%	12.92%	12.52%	10.18%	
13	Fortis Inc.	FTS.TO	13.15%	12.75%	35.14%	12.98%	12.99%	12.56%	10.08%	
14	IDACORP Inc.	IDA	10.81%	11.65%	31.79%	10.94%	11.32%	10.48%	8.89%	
15	MGE Energy	MGEE	9.57%	9.88%	31.46%	9.69%	9.67%	9.27%	8.75%	
16	Northwestern Corp.	NWE	9.84%	11.47%	30.54%	6.17%	10.98%	6.80%	8.75%	
17	Pinnacle West Capital	PNW	11.82%	12.26%	31.42%	12.20%	12.38%	12.01%	9.51%	
18	Portland General	POR	10.63%	11.46%	31.67%	10.85%	11.73%	11.47%	9.25%	
19	Public Serv. Enterprise	PEG	13.06%	12.49%	35.15%	13.22%	12.87%	12.52%	10.18%	
20	WEC Energy Group	WEC	13.14%	12.40%	34.76%	12.95%	12.82%	12.42%	9.88%	
21	Xcel Energy Inc.	XEL	13.18%	12.63%	35.37%	13.10%	12.98%	12.73%	9.93%	
22	Proxy Group Average		12.07%	12.16%	33.32%	11.99%	12.31%	11.77%	9.78%	14.77%
23	Equivalent C Exhbit Smoothed Average Risk Premium based upon OM									9.35%

Liberty Utilities (Calpeco) Corp.
Comparative Risk Study - Adjustment to Size Premium
Based on *Kroll* 2023 Size Risk Premium Study Data

Equivalent C Exhibit Portfolio CV(Operating Margin)

Line No.	Company	Symbol	MV Equity (Table C-1)	Book Equity (Table C-2)	MVIC (Table C-4)	5 Yr Avg. Net Income (Table C-3)	Total Assets (Table C-5)	5 Yr Avg. EBITDA (Table C-6)	Sales (Table C-7)	
1	ALLETE	ALE	18.87%	14.91%	18.62%	16.94%	15.93%	17.52%	21.68%	
2	Alliant Energy	LNT	14.39%	14.28%	13.88%	14.12%	14.01%	14.32%	17.28%	
3	Amer. Elec. Power	AEP	12.46%	12.76%	12.01%	11.75%	13.20%	11.21%	13.72%	
4	Ameren Corp.	AEE	13.84%	13.65%	13.59%	12.73%	12.16%	13.19%	15.51%	
5	Avista Corp.	AVA	20.62%	14.95%	18.40%	18.18%	15.73%	16.81%	21.59%	
6	Black Hills	BKH	18.12%	14.68%	16.72%	15.23%	15.16%	15.98%	20.73%	
7	CMS Energy Corp.	CMS	14.00%	14.19%	13.61%	12.65%	12.31%	13.16%	18.71%	
8	Consol. Edison	ED	12.92%	12.73%	12.24%	11.96%	13.11%	11.71%	17.55%	
9	DTE Energy	DTE	13.56%	13.65%	13.20%	12.80%	12.29%	12.95%	17.05%	
10	Duke Energy	DUK	11.57%	13.02%	11.92%	11.61%	13.33%	11.78%	14.74%	
11	Edison Int'l	EIX	13.45%	13.68%	12.15%	12.11%	13.16%	11.78%	17.43%	
12	Entergy	ETR	13.56%	12.90%	12.31%	12.53%	13.10%	11.96%	17.28%	
13	Fortis Inc.	FTS.TO	13.48%	12.90%	12.31%	12.53%	13.10%	11.96%	17.28%	
14	IDACORP Inc.	IDA	17.13%	14.89%	16.67%	14.77%	15.43%	16.37%	35.25%	
15	MGE Energy	MGEE	20.64%	18.96%	20.89%	19.62%	19.58%	21.36%	40.82%	
16	Northwestern Corp.	NWE	19.97%	14.90%	18.25%	48.75%	15.74%	44.04%	40.82%	
17	Pinnacle West Capital	PNW	14.76%	14.38%	14.63%	14.46%	13.39%	14.24%	21.49%	
18	Portland General	POR	17.53%	14.58%	15.79%	15.04%	15.23%	15.39%	25.94%	
19	Public Serv. Enterprise	PEG	12.70%	13.45%	12.30%	11.69%	12.67%	12.14%	17.28%	
20	WEC Energy Group	WEC	13.48%	13.66%	13.12%	12.66%	12.25%	13.20%	18.53%	
21	Xcel Energy Inc.	XEL	13.22%	13.15%	12.23%	11.94%	13.10%	11.84%	17.34%	
22	Proxy Group Average		15.25%	14.11%	14.52%	15.43%	14.00%	15.38%	21.34%	15.72%
23	Equivalent C Exhbit Smoothed Average Risk Premium based upon CV (OM)									10.19%

Liberty Utilities (Calpeco) Corp.
Comparative Risk Study - Adjustment to Size Premium
Based on *Kroll* 2023 Size Risk Premium Study Data

Equivalent C Exhibit Portfolio CV(ROE)

Line No.	Company	Symbol	MV Equity (Table C-1)	Book Equity (Table C-2)	MVIC (Table C-4)	5 Yr Avg. Net Income (Table C-3)	Total Assets (Table C-5)	5 Yr Avg. EBITDA (Table C-6)	Sales (Table C-7)	
1	ALLETE	ALE	30.80%	25.80%	30.53%	27.97%	27.50%	30.66%	34.84%	
2	Alliant Energy	LNT	26.10%	27.22%	25.32%	25.32%	28.04%	26.62%	28.07%	
3	Amer. Elec. Power	AEP	23.90%	24.93%	23.36%	21.58%	25.78%	22.43%	27.56%	
4	Ameren Corp.	AEE	24.62%	26.05%	25.22%	23.48%	24.72%	26.29%	29.00%	
5	Avista Corp.	AVA	33.55%	25.60%	30.34%	30.18%	27.83%	27.51%	34.77%	
6	Black Hills	BKH	29.54%	26.65%	28.55%	25.25%	27.58%	27.39%	37.97%	
7	CMS Energy Corp.	CMS	25.47%	26.74%	25.04%	22.95%	25.57%	25.91%	32.87%	
8	Consol. Edison	ED	23.16%	25.00%	24.17%	22.00%	25.40%	23.54%	29.43%	
9	DTE Energy	DTE	23.46%	26.06%	26.26%	23.99%	24.65%	26.19%	29.27%	
10	Duke Energy	DUK	22.83%	24.31%	23.02%	21.57%	26.45%	23.77%	26.24%	
11	Edison Int'l	EIX	24.17%	25.86%	23.99%	22.38%	25.61%	23.70%	29.48%	
12	Entergy	ETR	23.41%	25.76%	24.99%	23.54%	25.31%	24.49%	28.50%	
13	Fortis Inc.	FTS.TO	23.98%	25.17%	24.29%	23.44%	25.37%	24.10%	28.93%	
14	IDACORP Inc.	IDA	28.32%	27.14%	28.44%	24.66%	27.51%	27.03%	51.03%	
15	MGE Energy	MGEE	33.56%	31.92%	34.35%	31.11%	32.48%	34.42%	56.70%	
16	Northwestern Corp.	NWE	33.56%	31.92%	34.35%	31.11%	32.48%	34.42%	56.70%	
17	Pinnacle West Capital	PNW	26.56%	27.75%	26.57%	26.05%	27.24%	26.19%	34.68%	
18	Portland General	POR	29.08%	26.26%	27.05%	25.01%	28.86%	26.37%	41.52%	
19	Public Serv. Enterprise	PEG	22.72%	25.65%	24.29%	21.36%	24.96%	24.48%	28.50%	
20	WEC Energy Group	WEC	23.95%	26.00%	26.06%	23.75%	24.61%	26.39%	31.53%	
21	Xcel Energy Inc.	XEL	23.77%	25.39%	24.16%	21.96%	25.37%	23.83%	29.52%	
22	Proxy Group Average		26.50%	26.53%	26.68%	24.70%	26.83%	26.46%	34.62%	27.48%
23	Equivalent C Exhbit Smoothed Average Risk Premium based upon CV (ROE)									9.67%

Liberty Utilities (Calpeco) Corp.
Comparative Risk Study - Adjustment to Size Premium
Based on *Kroll* 2023 Size Risk Premium Study Data
Estimate of Risk Premium Adjustment

Line No.	Company	Symbol	5 -Year Historical OM	CV (OM)	CV(ROE)
1	ALLETE	ALE	12.90%	10.86%	6.15%
2	Alliant Energy	LNT	21.27%	4.45%	1.90%
3	Amer. Elec. Power	AEP	18.62%	8.68%	5.32%
4	Ameren Corp.	AEE	21.07%	6.02%	3.25%
5	Avista Corp.	AVA	17.49%	10.04%	20.44%
6	Black Hills	BKH	22.02%	12.67%	3.03%
7	CMS Energy Corp.	CMS	17.05%	13.81%	7.83%
8	Consol. Edison	ED	21.25%	17.34%	5.26%
9	DTE Energy	DTE	12.49%	19.83%	7.43%
10	Duke Energy	DUK	22.59%	13.50%	4.63%
11	Edison Int'l	EIX	19.08%	5.05%	80.15%
12	Entergy	ETR	18.61%	25.66%	15.31%
13	Fortis Inc.	FTS.TO	27.04%	5.59%	1.78%
14	IDACORP Inc.	IDA	21.85%	5.43%	1.69%
15	MGE Energy	MGEE	20.48%	9.52%	3.53%
16	Northwestern Corp.	NWE	20.30%	8.28%	9.74%
17	Pinnacle West Capital	PNW	20.08%	9.97%	9.76%
18	Portland General	POR	16.78%	7.00%	5.33%
19	Public Serv. Enterprise	PEG	24.84%	10.23%	7.96%
20	WEC Energy Group	WEC	20.74%	8.07%	5.26%
21	Xcel Energy Inc.	XEL	17.18%	6.45%	1.17%
22	Proxy Group Average		19.70%	10.40%	9.85%

Proxy Group Risk Differences

					Average
23	Smoothed Average Risk Premium From Equivalent I	8.54%	9.68%	8.61%	8.94%
24	Smoothed Average Risk Premium From Equivalent (	9.35%	10.19%	9.67%	9.74%
25	Indicated Risk Adjustment	-0.81%	-0.52%	-1.06%	-0.80%
					Mid-point
26	Possible Adjustment to Risk Premium	0.00%	to	-0.80%	-0.40%

		5 -Year Historical OM	CV (OM)	CV(ROE)	
27	Liberty Utilities (Calpeco) Corp.	22.51%	15.11%	27.61%	
					Average
28	Smoothed Average Risk Premium From Equivalent I	8.16%	10.14%	9.68%	9.33%
29	Smoothed Average Risk Premium From Equivalent (	9.35%	10.19%	9.67%	9.74%
30	Indicated Risk Adjustment	-1.19%	-0.05%	0.01%	-0.41%
					Mid-point
31	Possible Adjustment to Risk Premium	0.00%	to	-0.41%	-0.21%