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Proceeding: 2023 Cost of Capital
Application: A.22-04-011
Exhibit: SCG-08

SOUTHERN CALIFORNIA GAS COMPANY
PREPARED REBUTTAL TESTIMONY OF JAMES M. COYNE
(RETURN ON EQUITY)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

August 2022

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**SOUTHERN CALIFORNIA GAS COMPANY
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4 **I. INTRODUCTION AND SUMMARY**

5 **Q. Please state your name and business address.**

6 A. My name is James M. Coyne, and I am employed by Concentric Energy Advisors, Inc.
7 (“Concentric”) as a Senior Vice President. My business address is 293 Boston Post Road
8 West, Suite 500, Marlborough, MA 01752.

9 **Q. Did you previously file testimony in this proceeding?**

10 A. Yes. I submitted direct testimony to the California Public Utilities Commission (“CPUC”
11 or the “Commission”) on behalf Southern California Gas Company (“SoCalGas” or the
12 “Company”), on April 20, 2022.

13 **Q. What is the purpose of your rebuttal testimony?**

14 A. My rebuttal testimony on behalf SoCalGas addresses the direct testimony of intervenors
15 submitted on August 8, 2022, including the testimony of witnesses J. Randall Woolridge
16 on behalf of Public Advocates Office of the California Public Utilities Commission (“Cal
17 Advocates”), Michael P. Gorman on behalf of the Energy Producers & Users Coalition
18 (“EPUC”), Indicated Shippers (“IS”), and The Utility Reform Network (“TURN”),
19 Richard McCann on behalf of Environmental Defense Fund (“EDF”), Mark E. Ellis on
20 behalf of the Protect Our Communities Foundation (“PCF”), and Catherine E. Yap on
21 behalf of Southern California Generation Coalition (“SCGC”) as it relates to the
22 appropriate return on equity (“ROE”) and capital structure for SoCalGas. I collectively
23 refer to these individual witnesses as “Intervenor Witnesses,” or “Witnesses.”

1 **Q. Are you sponsoring any exhibits as part of your rebuttal testimony?**

2 A. Yes. I am sponsoring the following exhibits:

3 Rebuttal Exhibit JMC-1 – Comprehensive Summary of ROE Results

4 Rebuttal Exhibit JMC-2 – Constant Growth DCF Analysis

5 Rebuttal Exhibit JMC-3.1 – Market Risk Premium

6 Rebuttal Exhibit JMC-3.2 – CAPM Analysis

7 Rebuttal Exhibit JMC-4 – Risk Premium Analysis

8 Rebuttal Exhibit JMC-5 – Expected Earnings Analysis

9 Rebuttal Exhibit JMC-6 – Dr. Woolridge’s Replicated DCF Analysis Applying Estimated
10 EPS Growth Estimates

11 **Q. How is the remainder of your rebuttal testimony organized?**

12 A. My rebuttal testimony is organized by topic/issue, starting in Section II with an overview
13 and summary of the results and recommendations presented by the various ROE witnesses
14 in this proceeding. Section III presents the results of my updated ROE analyses based on
15 market data through July 29, 2022. Section IV discusses economic and capital market
16 conditions and how those conditions are affecting the various models used to estimate the
17 cost of equity for SoCalGas. In Section V, I respond to certain Intervenor Witnesses with
18 respect to the composition of a risk-comparable proxy group for SoCalGas in this
19 proceeding. In Section VI, I address the proper application of the Discounted Cash Flow
20 (“DCF”) model, and I discuss areas of disagreement in the application of the DCF model
21 and the relevance of its results under current market conditions. In Section VII, I discuss
22 areas of disagreement in the application of the Capital Asset Pricing Model (“CAPM”),
23 and in particular the appropriate inputs to that model. In Section VIII, I respond to

1 comments and concerns with regard to my application of the Bond Yield Plus Risk
2 Premium (“Risk Premium”) model. In Section IX, I address concerns regarding the use of
3 an Expected Earnings model to estimate the cost of equity for SoCalGas. In Section X, I
4 discuss the unique business risk of SoCalGas and how those risks differentiate the
5 Company from the proxy group, and I respond to comments concerning the credit ratings
6 of SoCalGas relative to those for the proxy group companies. In Section XI, I respond to
7 concerns raised by certain witnesses with respect to SoCalGas’s proposed capital structure,
8 and I explain why that capital structure is reasonable by comparison to the proxy group and
9 given the business risks of SoCalGas. Lastly, in Section XII, I summarize my key
10 conclusions and recommendations.

11 **II. EXECUTIVE SUMMARY**

12 **Q. What are your key conclusions regarding the analysis and recommendations** 13 **provided by the Intervenor Witnesses regarding the appropriate ROE and capital** 14 **structure for SoCalGas?**

15 A. My key conclusions are as follows:

16 (1) The Intervenor Witnesses’ analyses contain flaws and inconsistencies that
17 produce some results that are more than 370 basis points below any return
18 authorized for any natural gas utility in at least 40 years. ROE recommendations
19 of 8.75 percent and below are lower than 99 percent of ROE authorizations over
20 that same period.

21 (2) Several of the Intervenor Witnesses’ ROE recommendations are unreasonably
22 low and well below the average ROEs authorized for other natural gas utilities. Yet
23 none of the Intervenor Witnesses demonstrate that SoCalGas’s risk profile is lower

1 than the average gas utility to support such a significant departure from the returns
2 available to other utilities. As explained in my Direct Testimony (Exhibit SCG-04)
3 and Ms. Ng's testimony (Exhibit SCG-03), SoCalGas's higher risk profile differs
4 from its utility peer group, which warrants SoCalGas's ROE to be at the higher end
5 of the modeling range.

6 (3) The cost of equity for regulated utility companies is being affected by several
7 key factors in the current and prospective capital markets, including the interest rate
8 environment and central bank monetary policy as well as current inflationary
9 pressure and the longer-term outlook for inflation. While the models used to
10 estimate the cost of equity reflect current investor expectations, those expectations
11 with regard to inflation have been changing rapidly throughout the first half of
12 2022. Inflation has escalated to levels not seen since the early 1980s, interest rates
13 across the yield spectrum have increased, and capital market volatility has increased
14 from its previously elevated state. These circumstances also reinforce the
15 importance of considering the results of multiple models, as I have with the CAPM,
16 DCF, Risk Premium, and Expected Earnings approaches.

17 (4) All models are subject to certain limiting assumptions. However, in market
18 conditions where ROE estimation models are producing return estimates as low as
19 the current cost of debt (e.g. Mr. Ellis' CAPM), utility regulators recognize that
20 such low returns are not compensatory for investors. Rather than endorsing the
21 results of a specific methodology, the Commission should consider how current
22 market conditions affect the risks for equity investors as well as take into account
23 the results of a broader range of ROE estimation methodologies.

1 (5) Based on my updated DCF, CAPM, Bond Yield Plus Risk Premium, and
2 Expected Earnings analyses, I continue to find a reasonable range of ROE for
3 SoCalGas to be in the range of 10.00 percent to 11.00 percent and the Company's
4 requested ROE of 10.75 percent to be fair and appropriate. In addition, I support
5 Ms. Arazi's proposal with regards to authorized capital structure of 54.0 percent
6 common equity 0.4 percent preferred equity, and 45.6 percent long-term debt as
7 reasonable.

8 **Q. Please summarize the cost of capital recommendations presented by the various**
9 **witnesses in this proceeding.**

10 A. The Intervenor Witnesses who perform an ROE analysis (Dr. Woolridge, Mr. Gorman, Dr.
11 McCann, and Mr. Ellis) recommend an authorized ROE for SoCalGas between 5.35
12 percent and 9.50 percent. As it relates to capital structure, Dr. Woolridge and Mr. Gorman
13 recommend the Commission reject both the Company's proposed and currently authorized
14 capital structures. They propose that the Commission authorize a hypothetical capital
15 structure consisting of 52.00 percent common equity, 47.60 long-term debt, and 0.40
16 percent preferred equity.

17 As is evident, there are a broad array of recommendations from multiple witnesses.
18 Notably, recommendations as low as 5.35 percent are below any authorized return for any
19 natural gas utility in the last 40 years and almost as low as the cost of debt.¹ Some are
20 supported by analytical approaches while others are more judgmental or based on decisions
21 from other jurisdictions. I submit that the appropriate method for determining the cost of
22 capital is through the application of rigorous analysis using financial models and market

¹ Source: S&P Capital IQ Pro, Regulatory Research Associates. 8.70 percent is the lowest authorized ROE for a natural gas utility since 1980, excluding cases for limited-issue riders.

1 data from reliable sources, coupled with a comprehensive risk assessment of the regulated
2 utility relative to comparable utilities nationwide.

3 **Q. Please provide an overview of the Intervenor Witnesses' analytical results in this**
4 **proceeding.**

5 A. As shown in Figure 1, the Intervenor Witnesses base their recommendations on analyses
6 that range from a low of 4.93 percent to a high of 10.46 percent.

7 **Figure 1: ROE Ranges and Recommendations of the Intervenor Witnesses**

	Cal Advocates Dr. Woolridge²	EPUC-IS- TURN Mr. Gorman³	EDF Dr. McCann⁴	PCF Mr. Ellis⁵
DCF Results	8.75%	8.07%-9.31%	9.76%	5.72%
CAPM Results	7.40%	9.80%-10.46%	NA	4.93%
Risk Premium Results	NA	9.00%-9.41%	NA	NA
Comparable Earnings Results	NA	NA	NA	NA
ROE Recommendation (Range)	8.75%	9.50% (9.20%- 9.80%)	8.70%	5.35%

8 There are a number of flaws and inconsistencies with the analyses conducted by the
9 Intervenor Witnesses. I address each analytical approach and recommend appropriate
10 revisions where justified. At the outset, one must question analyses producing results that
11 are more than 370 basis points below any return authorized for any natural gas utility in at
12 least 40 years. Further, recommendations as low as 8.75 percent (or even below that),

² Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 57, 71, 73.

³ Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-25, IX-30, IX-38-IX-39.

⁴ Direct Testimony of Richard McCann (Exhibit EDF-01) at 47.

⁵ Direct Testimony of Mark E. Ellis (Exhibit PCF-01) at 10.

1 which is below 99 percent of the ROEs authorized for natural gas utilities since at least
2 1980, must also be questioned.⁶

3 **Q. Please describe the legal standards that must be met to establish the authorized ROE**
4 **for a regulated public utility such as SoCalGas.**

5 A. As discussed in my direct testimony, the standards for a just and reasonable return
6 established by the United States Supreme Court in the *Hope* and *Bluefield* cases are:

7 (1) Financial integrity: the return must be adequate to ensure the company's
8 financial soundness and support credit quality;

9 (2) Capital attraction: the return must be sufficient to enable the company to attract
10 capital on reasonable terms and conditions; and

11 (3) Comparable return: the return must be comparable to those available to
12 investors in firms with commensurate risk.

13 **Q. Several of the Intervenor Witnesses (Woolridge, Gorman) reference authorized**
14 **ROEs for natural gas utilities in other jurisdictions. Do you agree with their**
15 **characterization of the trend in authorized ROEs and the relevance of the trend on**
16 **SoCalGas's cost of equity?**

17 A. National average returns must be placed in the proper context in order to be useful. While
18 I agree that investors consider authorized returns in other states in assessing the
19 reasonableness of the authorized ROE for SoCalGas, I have several concerns with the
20 nationwide average ROE information presented by the Intervenor Witnesses. First, market
21 conditions at the time the authorized returns were established are very different than
22 conditions going forward. For example, equity returns set when interest rates were very

⁶ Source: S&P Capital IQ Pro, Regulatory Research Associates. 8.70 percent is the lowest authorized ROE for a natural gas utility since 1980, excluding cases for limited-issue riders.

1 low in 2020 are not a reasonable basis of comparison for evaluating the authorized ROE
2 for 2023 when bond yields have increased and are projected to continue increasing as the
3 economy recovers and the Federal Reserve moves to a more neutral monetary policy. After
4 the decline in interest rates in 2020-2021 driven by the Federal Reserve’s unprecedented
5 actions to respond to the COVID-19 pandemic, interest rates have now increased by 86 to
6 143 basis points since SoCalGas’s ROE of 10.05 percent was authorized in December
7 2019.⁷ Although state utility commissions mitigated ROE reductions in 2020-2021 due to
8 the knowledge that interest rates were being artificially suppressed due to the Federal
9 Reserve’s actions,⁸ the use of prior decisions during that time period which set ROEs under
10 previously lower levels understates the forward-looking cost of equity and the very
11 different rising interest rate environment that we are now experiencing.⁹

12 In addition, certain of the Intervenor Witnesses’ recommendations (Woolridge,
13 McCann, and Ellis) are unjustifiably well below the national averages for natural gas
14 utilities. As shown as in Figure 2, below, several recommendations substantially depart

⁷ The average 30-year Treasury bond yield was 2.30 percent in December 2019. The current 30-day average on the 30-year Treasury bond yield was 3.16 percent as of July 29, 2022. The A-rated Utility bond yield was 3.40 percent in December 2019 and was 4.83 percent for the 30-day average as of July 29, 2022.

⁸ S&P, *The Big Picture: 2022 Electric, Natural Gas and Water Utilities Outlook (Oct 2021)* (“S&P Oct. 2021”) at 5 (finding that the spread between authorized ROE and interest rates increased because state utility commissions “recognized that long-term bond yields have been artificially suppressed due to the Fed[eral] Reserve’s unprecedent intervention in the capital markets.”; *see also* RRA, *Major Energy Rate Case Decisions in the US—January-June 2022* (July 27, 2022) (“RRA July 22, 2022”). at 6 (“the gap between authorized ROEs and interest rates widened somewhat over this period, largely as a result of regulators’ often-unstated understanding that the drop in interest rates caused by Federal Reserve intervention was unusual.”).

⁹ RRA July 29, 2022 at 7 (with interest rates on the rise “the average authorized returns for full year 2022 and 2023 may edge higher”); *accord id.* at 4 (“Authorized returns may edge slightly higher going forward as the U.S. Federal Reserve continues efforts to tamp down soaring inflation via a series of interest rate hikes, the first of which was announced in March”); WT (Rothschild) at 26 (“[h]igher interest rates, all else equal, generally indicate a higher cost of equity for electric utility companies because fixed income investments become relatively more attractive when they start paying a higher rate.”).

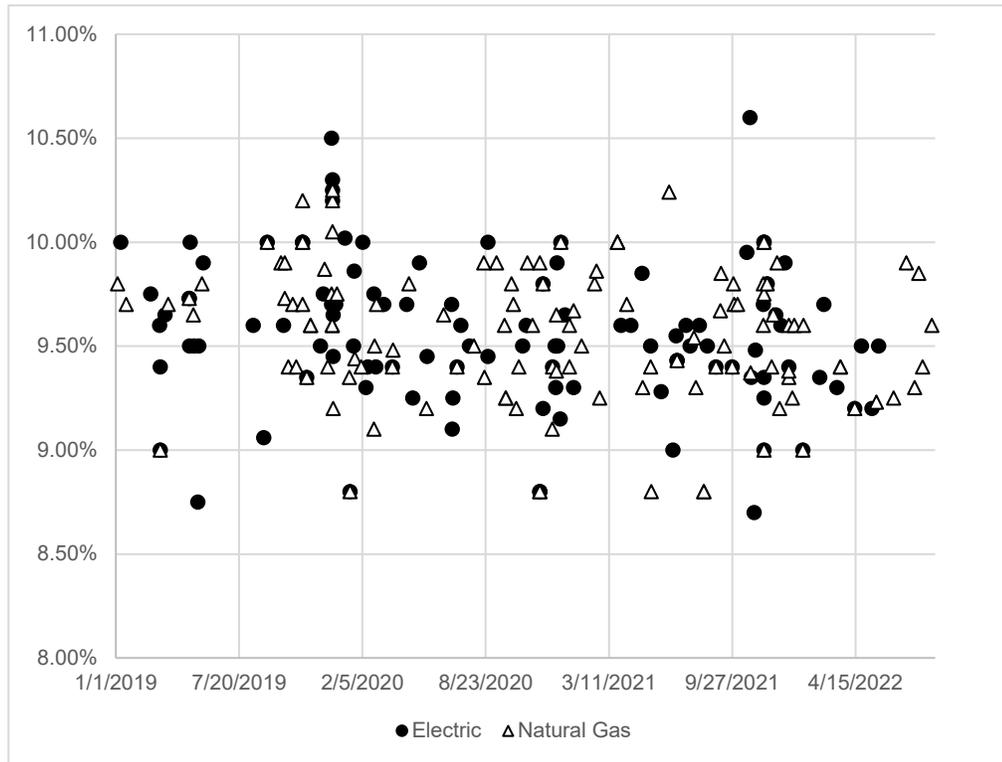
1 from these benchmarks. To support such a significant departure from the returns available
2 to other gas utilities, the Intervenor Witnesses would have to demonstrate that SoCalGas's
3 risk profile is meaningfully lower than the average natural gas utility. However, the
4 Intervenor Witnesses have not demonstrated that SoCalGas's risk profile is lower than the
5 average natural gas utility. My Direct Testimony¹⁰ and Ms. Ng's Direct Testimony¹¹
6 explain why the company's risk profile is above average risk as compared to the proxy
7 group companies and how SoCalGas faces additional risk as a gas-only utility in a state
8 that is looking to rapidly decarbonize. The risks discussed in my testimony, as well as Ms.
9 Ng's testimony support the requested ROE that will allow SoCalGas to efficiently continue
10 to attract funds as it carries out its obligation to provide safe, reliable, and resilient energy
11 service to Southern California, while also supporting California's clean energy goals. On
12 that basis, I conclude that the returns recommended by these witnesses do not satisfy the
13 requirements for a just and reasonable return for SoCalGas, as outlined in the *Hope* and
14 *Bluefield* decisions.

¹⁰ Direct Testimony of James M. Coyne (Exhibit SCG-04) at 48-59.

¹¹ See Direct Testimony of Deana M. Ng (Exhibit SCG-03) Sections II (Business Risk), III (Financial Risk), IV (Regulatory Risk) at 3-25.

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Figure 2: Authorized ROEs 2019-2022¹²



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3 **III. UPDATED ROE RESULTS**

4 **Q. Have you updated your ROE analyses?**

5 A. Yes, I have updated the results of the financial models used to estimate the cost of equity
 6 for SoCalGas in my direct testimony (data as of February 26) to include market data
 7 through July 29, 2022. I have used the same proxy group of six natural gas utility
 8 companies. The results of those updated analyses are shown in Figure 3 and Rebuttal
 9 Schedules JMC-2 to JMC-6.

¹² Source: S&P Capital IQ Pro, Regulatory Research Associates. 8.70 percent is the lowest authorized ROE for an electric utility since 1980, excluding cases for limited-issue riders, formula-based rate plans, and ROEs that include penalties.

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Figure 3: Updated ROE Results¹³

	Feb 28 data		July 29 data	
	Current Interest Rates	Projected Interest Rates	Current Interest Rates	Projected Interest Rates
DCF	9.72%	9.72%	9.65%	9.65%
CAPM	13.43%	13.62%	12.62%	12.73%
Risk Premium	9.47%	9.97%	9.86%	10.13%
Expected Earnings	9.77%	9.77%	9.94%	9.94%
Average ROE	10.60%	10.77%	10.52%	10.61%
Range	9.47%- 13.43%	9.72%- 13.62%	9.65%- 12.62%	9.65%- 12.73%

2 **Q. How do these updated results compare with those presented in your Direct**
3 **Testimony?**

4 A. The updated results are generally in line with those presented in my direct testimony. In
5 particular, the average of the four models is 10.52 percent to 10.61 percent, which is
6 slightly lower as compared with 10.60 percent to 10.77 percent as of February 28, 2022.
7 The mean DCF results have decreased by 7 basis points, the CAPM results have decreased
8 by 81 to 89 basis points due to lower projected market returns, the average Risk Premium
9 results have increased by 16 to 39 basis points due to the higher current and projected
10 Treasury bond yields, as have the mean Expected Earnings results that increased by 17
11 basis points. Moreover, there is no evidence that Beta coefficients for the proxy group of
12 natural gas utilities have meaningfully declined since February 2022. Betas from both
13 Value Line and Bloomberg remain near 0.80, which is substantially higher than at any time

¹³ The CAPM and Risk Premium model results are shown based on both current (30-day average) and projected (2024-2028) interest rates.

1 in the last 20 years, except during the financial crisis of 2008/2009. This indicates a
2 sustained upward shift in the market's evaluation of the risks for natural gas utilities.

3 **Q. What is your recommendation regarding a fair ROE for SoCalGas based on these**
4 **updated results?**

5 A. I continue to find a reasonable range of ROE for SoCalGas to be in the range of 10.00
6 percent to 11.00 percent and the Company's requested ROE of 10.75 percent to be fair and
7 appropriate.

8 **IV. CAPITAL MARKET CONDITIONS**

9 **Q. Have economic and financial market conditions changed over the past several months**
10 **since you submitted your Direct Testimony?**

11 A. Yes, since April 2022 several changes have occurred, some of which were signaled earlier,
12 and others emerging. It is important to consider current and expected conditions in the
13 general economy and financial markets because the authorized ROE for a public utility
14 should allow the utility to attract investor capital at a reasonable cost under a variety of
15 economic and financial market conditions.

16 **Q. What changes have occurred over the past several months?**

17 A. Three primary changes have occurred: inflation has escalated to levels not seen since the
18 early 1980s, interest rates across the yield spectrum have increased, and capital market
19 volatility has increased from its previously elevated state.

20 **Q. Please discuss these changes and root causes of these shifts in capital market**
21 **conditions?**

22 A. Inflation has been both the greatest surprise and cause for concern among both
23 policymakers and investors. As illustrated below, inflation levels have moved within a

1 relative narrow band over the past twenty years (other than during the Great Recession of
2 2007/08). Starting with the initial stages of the COVID-19 pandemic in 2020, inflation
3 levels have been driven higher, reaching 8.5 percent in July of 2022. Inflation is being
4 driven by strong consumer demand and supply constraints, some of which have been
5 exacerbated by COVID-19 related government stimulus programs in the U.S. and
6 international lockdowns. More recently, the war in Ukraine, which began in February, is
7 constraining the world's supply of food and fuel, pushing overall inflation higher and
8 feeding into the cost of other products and services.

9 **Figure 4: Consumer Price Index – All Urban, Not Seasonally Adjusted¹⁴**



10 As a result of these substantially higher inflation rates, the Federal Reserve has been
11 left little choice but to pull back on its COVID-related monetary policies and battle
12 inflation with its only effective tool: higher interest rates. In response to the economic
13 effects of COVID-19, the Federal Reserve had decreased the federal funds rate in March
14

¹⁴ Trading Economics, *United States Inflation Rate* (July 2022), available at: <https://tradingeconomics.com/united-states/inflation-cpi>.

1 2020 to a target range of 0.00 percent to 0.25 percent (which remained in effect until March
2 2022) in addition to other stimulus measures which increased the supply of money in the
3 economy. Since I prepared my ROE analysis provided in Direct Testimony (with market
4 data updated through February 28, 2022), the Federal Reserve has begun unwinding its
5 quantitative easing policy and increased the target rate four times, beginning with 25 basis
6 points on March 17, another 50 basis points on May 5, 75 basis points on June 16, and 75
7 basis points on July 27 to a target range of 2.25-2.50 percent. Expectations are for further
8 increases this year, bringing the target rate to 3.25 – 3.50 percent by the end of 2022.¹⁵
9 This demonstrates the level of Federal Reserve action necessary to reel in inflation. The
10 Fed is willing to risk substantially higher interest rates and a slowdown in the economy,
11 and it is clear that the era of record low interest rates and moderate inflation has closed.
12 The 10-year bond which closed out February at 1.83 percent is now at 2.88 percent, and
13 the 30-year yield which closed out February at 2.17 percent is now at 3.05 percent, both up
14 substantially since I developed my analysis (current data as of 7/22/22).

15 Equity markets have also been affected. The Chicago Board Options Exchange
16 (“CBOE”) Volatility Index (“VIX”) climbed higher, from 25.7 in February to 28.1 in June,
17 although it has recently settled back in the 23 range.¹⁶ For context, the VIX averaged 16.86
18 percent from 2010-2019, indicating increased levels of market volatility (and risk) for
19 equity investors today. This is confirmed by broader market indicators. The S&P 500

¹⁵ Reuters, *Fed to lift rates by 75 basis points in July, 50 bps in September - Reuters poll* (June 21, 2022), available at: <https://www.reuters.com/markets/europe/fed-lift-rates-by-75-basis-points-july-50-bps-september-2022-06-22/>.

¹⁶ The VIX Index is a calculation designed to produce a measure of constant, 30-day expected volatility of the U.S. stock market, derived from real-time, mid-quote prices of S&P 500® Index (SPXSM) call and put options. On a global basis, it is one of the most recognized measures of volatility -- widely reported by financial media and closely followed by a variety of market participants as a daily market indicator. Source: Cboe, available at: <https://www.cboe.com/>.

1 Index is down 19.0 percent YTD through July 15, but the S&P Utilities Index is only down
2 2.5 percent YTD, indicating a recent flight to the relative safety of utilities amid broader
3 market instability. However, utility stock prices continue to lag the broader market
4 compared to pre-pandemic levels.

5 **Q. Are conditions expected to stabilize in the near-term?**

6 A. No. While difficult to predict in the long-term, capital market conditions remain highly
7 uncertain. The economy and capital markets remain in a tenuous state with ongoing global
8 supply constraints and expectations of weaker consumer demand in the face of persistent
9 inflation and higher interest rates. Interest rates may not fully reflect the effects of inflation
10 because no one knows exactly how high interest rates must go before inflation returns to
11 more acceptable levels. The Federal Reserve has been targeting inflation of around 2.0
12 percent for many years, as compared with current annualized inflation of 8.5 percent at the
13 consumer level for the 12-month period ending in July 2022.

14 Looking forward, the inflation risks in the market are twofold: 1) either inflation
15 becomes embedded in the economy if the Federal Reserve does not move aggressively
16 enough in tightening monetary policy, or 2) the Federal Reserve responds to inflationary
17 pressure by raising short-term interest rates to a level that causes a slowdown in economic
18 growth or a recession. The August 2022 issue of Blue Chip Financial Forecasts (“Blue
19 Chip”) reports the results of a survey of leading economists and market analysts taken in
20 July 2022. Blue Chip reports that 36 percent of those surveyed indicate that central bank
21 policy is the biggest factor influencing their U.S. inflation forecast over the next 12 months,
22 with other factors being energy and commodity prices (24 percent), supply-chain
23 bottlenecks (21 percent), and overall economic growth (18 percent). In addition, 50 percent

1 think that by removing monetary accommodation, the Federal Reserve will be successful
2 in slowing inflation in the U.S. without causing a recession, while 50 percent believe that
3 monetary tightening will precipitate a U.S. recession.¹⁷

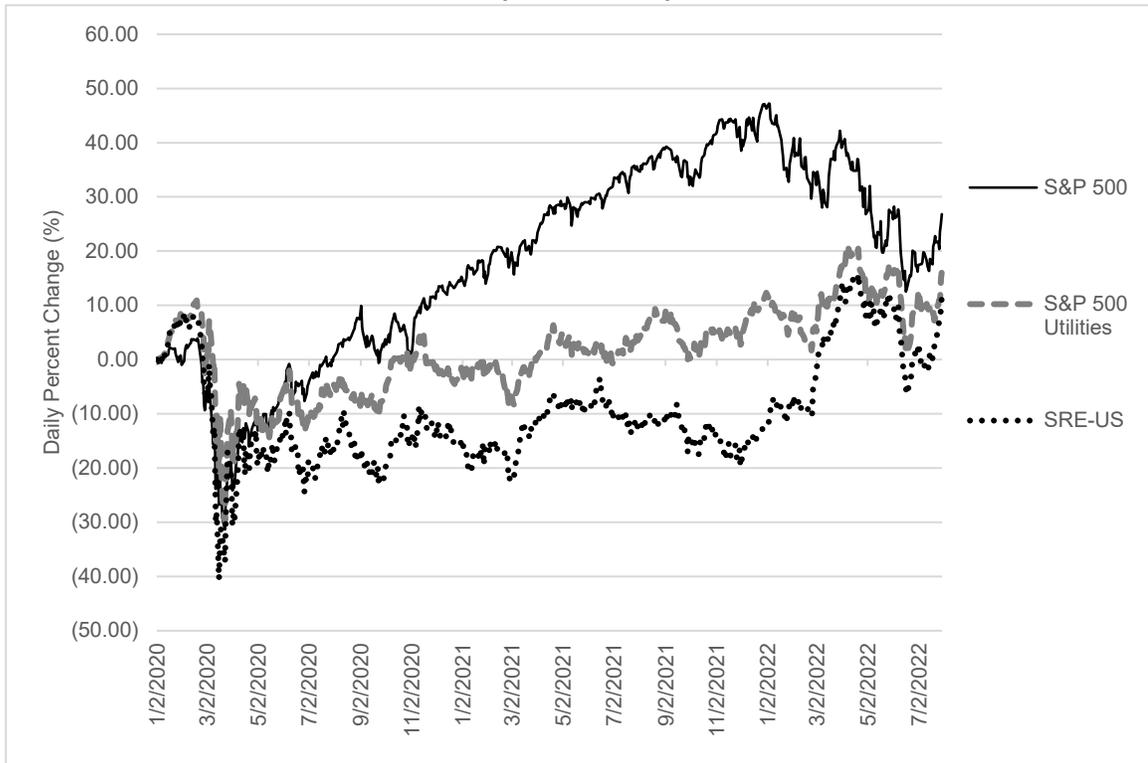
4 **Q. How have utilities performed relative to the broader market in recent months?**

5 A. As shown in Figure 5 below (an update to Figure 5 from my Direct Testimony), the S&P
6 Utilities Index and Sempra Energy's stock price continue to lag the broader market
7 compared to pre-pandemic levels. While utility stocks have overperformed the broader
8 market in recent months (including the period since the start of the war in Ukraine), overall
9 they have not surpassed the broader market for the period January 1, 2020 through July 29,
10 2022.

¹⁷ Blue Chip Financial Forecast, Vol. 41, Issue No. 8, August 1, 2022, at 14.

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Figure 5: Relative Performance of Utilities and the S&P 500, January 2020 – July 2022



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As shown in Figure 6 below (an update to Figure 4 of my Direct Testimony), Beta coefficients for the proxy group and Sempra Energy remain elevated.

Figure 6: Beta Coefficients for Proxy Group and Sempra Energy

	January 2020	February 2022	July 2022
<i>Proxy Group Average</i>			
Value Line Beta	0.63	0.85	0.83
Bloomberg Beta	0.601	0.822	0.797
<i>Sempra Energy</i>			
Value Line Beta	0.70	0.95	0.95
Bloomberg Beta	0.633	0.912	0.899

7

1 **Q. Have you factored these circumstances into your updated cost of equity estimates for**
2 **SoCalGas, and what conclusions do you draw?**

3 A. Yes. I have utilized the most recent market data and forecasts available to me in my
4 updated analysis. Long-term interest rates have increased substantially since the historic
5 lows of 2020 and are expected to continue to increase as the Federal Reserve unwinds its
6 pandemic response measures and focuses on inflation. This supports the use of both current
7 and forecast bond yields in the CAPM and Risk Premium models. These circumstances
8 also reinforce the importance of considering the results of multiple models, as I have with
9 the CAPM, DCF, Risk Premium, and Expected Earnings approaches. By contrast, several
10 of the Intervenor Witnesses have focused on one or two models, leading to an unnecessarily
11 narrow view, especially under current market conditions that impact the models differently.
12 My updated results have not, however, changed materially since I prepared my Direct
13 Testimony, and do not change my recommendation.

14 **V. PROXY GROUP COMPOSITION**

15 **Q. Certain Witnesses have developed their own proxy group of companies. Please**
16 **summarize those proxy groups.**

17 A. Mr. Gorman¹⁸ and Mr. Ellis adopt¹⁹ my proxy group. Dr. Woolridge develops his own
18 proxy group consisting of nine natural gas utilities based on a different set of screening
19 criteria.²⁰

¹⁸ Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-11.

¹⁹ Direct Testimony of Mark E. Ellis (Exhibit PCF-01) at 50.

²⁰ Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 24-25.

1 **Q. Do you have any concerns with any of Dr. Woolridge’s proxy group companies?**

2 A. Yes, Dr. Woolridge has included three companies that I have excluded from my proxy
3 group. Chesapeake Utilities Corporation (“Chesapeake”), nor any of its operating utilities,
4 are rated by the major credit rating agencies. As such, Chesapeake failed my criterion that
5 all proxy companies have an investment-grade credit or bond rating. While Dr. Woolridge
6 required his electric proxy group companies to have “[a]n investment-grade corporate
7 credit and bond rating,”²¹ he did not apply this screening criterion consistently with his
8 gas proxy group. Similarly, Dr Woolridge has a criterion for his electric proxy group that
9 companies are “[n]ot involved in an acquisition of another utility, and not the target of an
10 acquisition,” but South Jersey Industries, Inc. (“South Jersey”) and Southwest Gas
11 Corporation (“Southwest Gas”) were both engaged in transactions during Dr. Woolridge’s
12 180-day study period. On February 24, 2022 South Jersey announced that it had entered
13 into an agreement to be acquired by Infrastructure Investments Fund.²² On December 31,
14 2021, Southwest Gas closed on its acquisition of Questar Pipelines from Dominion
15 Energy.²³ I excluded both South Jersey and Southwest Gas because the transactions
16 coincided with the study period used in my ROE analyses.

²¹ Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 24.

²² South Jersey Industries, Inc., Press Release, *South Jersey Industries, Inc. Enters into Agreement to be Acquired by the Infrastructure Investments Fund* (February 24, 2022), available at: <https://www.sjindustries.com/investors/news-events/newsroom/south-jersey-industries/2022/south-jersey-industries,-inc-enters-into-agreement>.

²³ Dominion Energy, Press Release, *Dominion Energy Announces Closing of Sale of Questar Pipelines to Southwest Gas* (December 31, 2021) available at: <https://news.dominionenergy.com/2021-12-31-Dominion-Energy-Announces-Closing-of-Sale-of-Questar-Pipelines-to-Southwest-Gas>.

1 **Q. What is your conclusion with regard to the differences in proxy group selection**
2 **between you and Dr. Woolridge?**

3 A. In spite of this disagreement, my conclusion is that differences in our respective proxy
4 groups do not account for the more substantial differences in our respective analyses or
5 ROE recommendations.

6 **VI. DCF MODEL**

7 **Q. Dr. Woolridge and Dr. McCann base their ROE recommendations primarily on the**
8 **results of his DCF analysis, while Mr. Gorman sets the lower boundary of his range**
9 **of results based on his DCF model. Do you agree that it is appropriate to place this**
10 **degree of reliance on the DCF model?**

11 A. No, I do not. As discussed in my Direct Testimony, while many U.S. utility regulators
12 have used the DCF model to establish the authorized ROE, several regulators, including
13 FERC, have recognized the challenges associated with relying solely on the DCF to
14 establish the authorized ROE for regulated utilities in recent years.²⁴ For that reason, other
15 federal and state regulators—including this Commission—have relied on the results of
16 multiple methodologies both to test the reasonableness of the DCF results and to establish
17 a cost of equity that reflects investors' required return on a going-forward basis.²⁵

18 **Q. Please elaborate on your concerns with the DCF model under current market**
19 **conditions.**

20 A. Although I have included the DCF model in my analyses, I have concerns with the ability
21 of the DCF model to produce reliable results under current market conditions. This concern

²⁴ Direct Testimony of James M. Coyne (Exhibit SCG-04) at 35-36.

²⁵ Decision (D.) 19-12-056 at 20, "The financial models commonly used in ROE proceedings are the [CAPM], Risk Premium Model (RPM), and [DCF] model."

1 is amplified with an ROE analysis or recommendation relying exclusively on the DCF
2 model. As explained in my Direct Testimony, high utility valuations are expected to
3 decline as utilities underperform the broader market and, under these circumstances, the
4 results of the DCF model would understate the forward-looking cost of equity because the
5 dividend yield is calculated using historical average stock prices which do not fully reflect
6 these expectations.²⁶

7 Both Dr. Woolridge and Mr. Gorman observe the high valuations of natural gas
8 utilities, with Dr. Woolridge citing the higher than average market-to-book ratios and Mr.
9 Gorman referencing the higher than average P/E ratios. However, they disregard the effect
10 of those high valuations on the results of the DCF model, in particular the dividend yield
11 component. Exhibit JRW-2 demonstrates the decline in dividend yields over the past
12 decade. This indicates that investors are paying more for a dollar of earnings from natural
13 gas utilities than they did 10 years ago. As interest rates increase from historic lows, this
14 is expected to place pressure on these high valuations. As a result, my conclusion is that
15 the DCF model is understating the forward-looking cost of equity for regulated utilities
16 such as SoCalGas because the model is based on average historical stock prices that are
17 based on unsustainable valuation levels.

18 In response to comments from Dr. Woolridge²⁷ and Dr. McCann²⁸ regarding high
19 market-to-book (“M/B”) ratios being a sign that authorized ROEs for regulated utilities are
20 higher than the investor required cost of equity, I performed an analysis that examines the
21 correlation between government bond yields and the market-to-book ratios for utilities

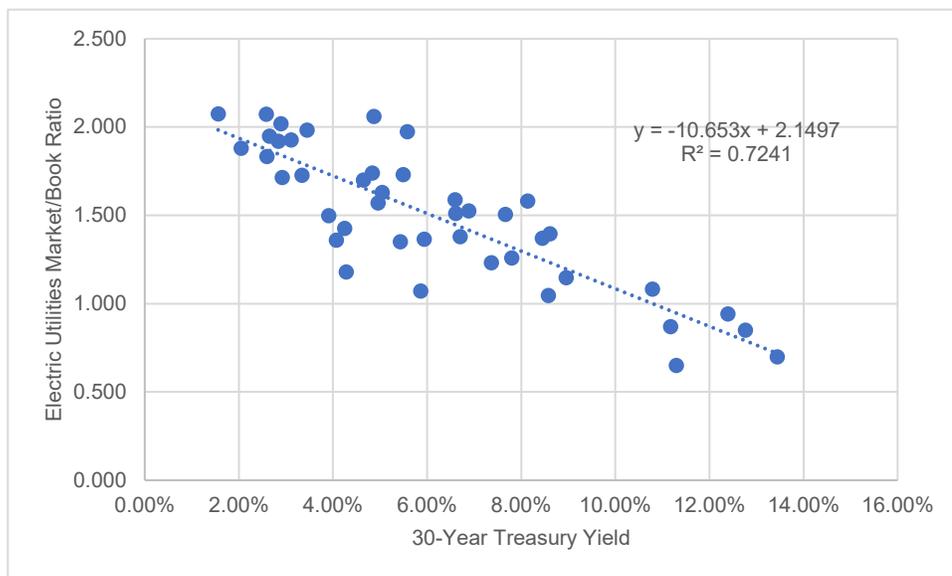
²⁶ Direct Testimony of James M. Coyne (Exhibit SCG-04) at 27-29.

²⁷ Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 35-37.

²⁸ Direct Testimony of Richard McCann (Exhibit EDF-01) at 31-33.

1 since 1980, using data provided in Chapter IX Exhibits MPG-11 and MPG-14 to Mr.
2 Gorman's Direct Testimony. As shown in Figure 7, the R^2 for this analysis is
3 approximately 0.72, indicating a strong linear relationship between M/B ratios and interest
4 rates. This relationship indicates that utility M/B ratios have increased not because
5 authorized returns were higher than the true cost of equity, but because interest rates on
6 government bonds have steadily declined for the past four decades. Low interest rates are
7 favorable for capital-intensive industries such as utilities, while increasing interest rates are
8 not.

9 **Figure 7: Market-to-Book Ratios and Interest Rates**



10
11 **A. Growth Rates in the DCF Model**

12 **Q. Do you agree with the use of growth rates in the DCF model other than forecast**
13 **earnings per share growth rates from equity analysts?**

14 **A.** No, I do not. Dr. Woolridge considers a variety of growth rates including both historical
15 and projected earnings per share, dividends per share, and book value per share. Dr.
16 Woolridge and Mr. Gorman also present a DCF model using “sustainable” growth rates.

1 In response to Dr. Woolridge’s use of historical growth rates and forecast growth rates
2 other than earnings per share (“EPS”), I agree with Mr. Gorman’s statement that “[a]s
3 predictors of future returns, securities analysts’ growth estimates have been shown to be
4 more accurate than growth rates derived from historical data.”²⁹ As explained in my Direct
5 Testimony, over the long term, dividend growth can only be sustained by earnings
6 growth,³⁰ while dividend growth can depend on management decisions regarding the
7 dividend payout ratio over the near-term which do not reflect the long-term growth
8 prospects of the company. As shown in Rebuttal Exhibit JMC-6, if Dr. Woolridge had
9 relied only on analysts’ projected EPS growth rates in his Constant Growth DCF analysis,
10 the mean results for his proxy group of nine natural gas utilities would be 9.42 percent.
11 Although these results are well below a reasonable cost of equity for SoCalGas, they are
12 67 basis points higher than Dr. Woolridge’s ROE recommendation of 8.75 percent.

13 I also agree with Mr. Gorman’s decision to essentially discard the results of his
14 Constant Growth DCF analysis that uses sustainable growth rates. I also note that Dr.
15 Woolridge’s and Mr. Gorman’s sustainable growth rate calculation rely on Value Line’s
16 projected ROE data for the proxy group companies. Those projected ROEs are
17 substantially higher than the results of the DCF model using sustainable growth rates
18 presented by any of the Intervenor Witnesses, and demonstrate the fact that investors are
19 expecting to earn higher returns on equity from the proxy group companies than what is
20 shown by the DCF model using sustainable growth rates calculated from the same source,
21 Value Line. This is an inherent inconsistency in their sustainable growth approach to the
22 DCF.

²⁹ Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-13.

³⁰ Direct Testimony of James M. Coyne (Exhibit SCG-04) at 34.

1 **Q. Dr. Woolridge expresses concern that analysts’ projected EPS growth rates are**
2 **“overly-optimistic and upwardly biased,”³¹ while Mr. Gorman claims that long-term**
3 **GDP growth serves as a cap on long-term EPS growth rates and suggests that short-**
4 **term EPS growth rates are too high.³² Do you share those concerns about analysts’**
5 **projected EPS growth rates?**

6 A. No, this is a familiar refrain, but unsubstantiated for utilities. The 2003 Global Analysts
7 Research Settlement (the “Global Settlement”) served to significantly reduce the bias
8 referred to by Dr. Woolridge. In fact, the Global Settlement required financial institutions
9 to insulate investment banking from analysis, prohibited analysts from participating in
10 “road shows,” and required the settling financial institutions to fund independent third-
11 party research.

12 A 2010 article in Financial Analysts Journal found that analyst forecast bias
13 declined significantly or disappeared entirely after the Global Settlement:

14 Introduced in 2002, the Global Settlement and related regulations had an
15 even bigger impact than Reg FD on analyst behavior. After the Global
16 Settlement, the mean forecast bias declined significantly, whereas the
17 median forecast bias essentially disappeared. Although disentangling the
18 impact of the Global Settlement from that of related rules and regulations
19 aimed at mitigating analysts’ conflicts of interest is impossible, forecast bias
20 clearly declined around the time the Global Settlement was announced.
21 These results suggest that the recent efforts of regulators have helped
22 neutralize analysts’ conflicts of interest.³³

23 In addition, analysts covering the common stock of the proxy companies certify
24 that their analyses and recommendations are not related, either directly or indirectly, to

³¹ Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 51.

³² Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-15.

³³ Armen Hovakimian and Ekkachai Saenyasiri, *Conflicts of Interest and Analyst Behavior: Evidence from Recent Changes in Regulation*, Financial Analysts Journal, Volume 66, Number 4, July/August 2010 at 195.

1 their compensation. Thus, it is unclear why investors would assume that the proxy
2 companies are susceptible to a continuing upward bias in earnings projections, especially
3 given the fact that natural gas utilities operate in the mature stage of a stable industry with
4 a very high degree of financial transparency due to their regulation. Further, to the extent
5 Dr. Woolridge believes that investors are well aware of these optimistic or biased growth
6 rates, that suggests that utility stock prices already reflect that information.

7 Likewise, actual earnings data belie Mr. Gorman's position that projected GDP
8 growth represents a cap on long-term EPS growth. The suggestion that equity earnings are
9 limited by future growth in GDP may hold for aggregate corporate earnings in a closed
10 economy but these are not realistic assumptions for an individual firm nor for utilities in
11 general.³⁴ To illustrate this point, I have compared the actual historical EPS and dividend
12 per share ("DPS") growth rates (to the extent data was available through Value Line) of all
13 U.S. natural gas utilities and the companies in my proxy group from 2011-2021 to historical
14 and projected GDP growth rates from Blue Chip, the Energy Information Administration,
15 and the Social Security Administration. The results are shown in Figure 8.

³⁴ See MSCI Barra Research Bulletin, *Is There a Link Between GDP Growth and Equity Returns?* (May 2010), available at: <https://www.msci.com/documents/10199/a134c5d5-dca0-420d-875d-06adb948f578>.

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Figure 8: Analysis of EPS, DPS and GDP Growth Rates

		[1] <i>Historical</i> 2011 - 2021	[2] <i>Historical</i> 2011 - 2021	[3] <i>Projected</i>		<i>% Historical Difference</i>		<i>% Historical Multiple</i>	
	No. of Companies	EPS Growth	DPS Growth	GDP Growth	GDP Growth	EPS vs GDP	DPS vs GDP	EPS vs GDP	DPS vs GDP
U.S. All Natural Gas Companies	10	4.90%	6.30%	4.15%	4.24%	0.75%	2.15%	1.2	1.5
SoCalGas Proxy Group	6	4.63%	4.96%	4.15%	4.24%	0.49%	0.81%	1.1	1.2
AVERAGE		4.76%	5.63%	4.15%	4.24%	0.62%	1.48%	1.1	1.4

Notes

[1] TTM EPS/DPS % CAGR over the time period 2011 Q1 - 2021 Q4 (latest reported quarter). Companies with negative or zero EPS or DPS in 2021, or negative values in the starting year as reported by Bloomberg Professional, were excluded from this calculation.

[2] Source: Bureau of Economic Analysis, June 24, 2021, nominal GDP % CAGR over the time period 2011 Q1 - 2021 Q4.

[3] Source: Blue Chip Financial Forecasts, Energy Information Administration, and Social Security Administration, as of 2022 Q1.

[4] As covered by Value Line at 2022 Q1. FirstEnergy was excluded from the analysis due to declines as a result of anomalous events.

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As shown above, the EPS and DPS growth rates of utilities can, and do, exceed GDP growth for sustained periods. Specifically, for the SoCalGas proxy group, historical EPS has exceeded historical GDP growth by 0.49 percent from 2011-2021 and historical DPS has exceeded historical GDP growth by 0.81 percent over the same period. This rate of growth is 10 to 20 percent greater than GDP over this same period. My conclusion is that it is not unreasonable to rely on analyst EPS growth projections, as I and other experts commonly do, just because they exceed GDP growth.

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No company, or investor, would be satisfied with growth that simply tracks the broader economy. Investors would shift capital to more attractive investments. Companies are constantly searching for new avenues of growth and have levers such as capital resource allocation to achieve growth greater than GDP. There is no reason to expect that an individual corporation competing for capital as a going concern will limit earnings or dividend growth to GDP. In my opinion, limiting growth in the DCF model to long-term GDP is an unfounded constraint. Therefore, I do not share Mr. Gorman's concern that analysts' projected EPS growth rates are too high.

1 Furthermore, I note that Mr. Gorman relies on analyst's projected EPS growth rates
2 in his Constant Growth DCF model, which forms the lower boundary of his range of
3 results, while discarding the results of his Multi-Stage DCF model results that include
4 projected GDP growth in the terminal stage.

5 **Q. Please describe the issue with the application of sustainable growth or retention
6 growth in the Constant Growth DCF model.**

7 A. The sustainable growth rate or retention growth rate calculation assumes that future
8 earnings will increase as the retention ratio increases. However, this relationship may not
9 hold for a given company based on management decisions associated with the dividend
10 payout rate. This conclusion is supported by two articles published in the *Financial
11 Analysts Journal* that discussed the theory that high dividend payouts (*i.e.*, low retention
12 ratios) are associated with low future earnings growth.³⁵ Each of those articles cited to a
13 2003 study by Arnott and Asness³⁶ that found, over the course of 130 years of data, future
14 earnings growth is associated with high, rather than low payout ratios.³⁷ Specifically,
15 Arnott and Asness concluded:

16 Unlike optimistic new-paradigm advocates, we found that low payout ratios
17 (high retention rates) historically precede low earnings growth. This
18 relationship is statistically strong and robust. We found that the empirical
19 facts conform to a world in which managers possess private information
20 that causes them to pay out a large share of earnings when they are
21 optimistic that dividend cuts will not be necessary and to pay out a small
22 share when they are pessimistic, perhaps so that they can be confident of
23 maintaining the dividend payouts. Alternatively, the facts also fit a world in

³⁵ Ping Zhou, William Ruland, *Dividend Payout and Future Earnings Growth*, *Financial Analysts Journal*, Vol. 62, No. 3, 2006. See also Owain ap Gwilym, James Seaton, Karina Suddason, Stephen Thomas, *International Evidence on the Payout Ratio, Earnings, Dividends and Returns*, *Financial Analysts Journal*, Vol. 62, No. 1, 2006.

³⁶ Robert Arnott, Clifford Asness, *Surprise: Higher Dividends = Higher Earnings Growth*, *Financial Analysts Journal*, Vol. 59, No. 1, January/February 2003.

³⁷ Since the payout ratio is the inverse of the retention ratio, the authors found that future earnings growth is negatively related to the retention ratio.

1 which low payout ratios lead to, or come with, inefficient empire building
2 and the funding of less than-ideal projects and investments, leading to poor
3 subsequent growth, whereas high payout ratios lead to more carefully
4 chosen projects. The empire-building story also fits the initial
5 macroeconomic evidence quite well. At this point, these explanations are
6 conjectures; more work on discriminating among competing stories is
7 appropriate.³⁸

8 Given that all three studies found that there is a negative relationship between earnings
9 growth and retention ratios, the application of retention growth rates in the DCF model is
10 not appropriate.

11 **B. Multi-Stage DCF Approach**

12 **Q. Intervenor Witnesses have also presented the results of a Multi-Stage DCF model.³⁹**

13 **Do you agree that the results and weight placed on those analyses are reasonable?**

14 A. No, I do not. Mr. Gorman presents the results of a Multi-Stage DCF analysis but then once
15 again elects not to rely on those results in setting his range or recommendation for
16 SoCalGas, presumably because he views the results as being too low.⁴⁰ Mr. Ellis also
17 presents the results of a multi-stage DCF model, but unlike Mr. Gorman, he relies on those
18 results for his ROE recommendation, even though his multi-stage DCF result of 6.00
19 percent is more than 400 basis points lower than SoCalGas's current authorized ROE and
20 below any ROE authorized for any natural gas utility in at least the last 40 years. Dr.
21 McCann relies exclusively on a Multi-Stage DCF analysis, but it is unclear what
22 assumptions he uses. Since there is no explanation of his inputs and assumptions included
23 in his Multi-Stage DCF analysis, his results should be disregarded.

³⁸ Robert Arnott, Clifford Asness, *Surprise: Higher Dividends = Higher Earnings Growth*, Financial Analysts Journal, Vol. 59, No. 1, January/February 2003.

³⁹ See, e.g., Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-17-24, Direct Testimony of Mark E. Ellis (Exhibit PCF-01) at 50, and Direct Testimony of Richard McCann (Exhibit EDF-01) at 47.

⁴⁰ Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-25, IX-38–IX-39.

1 The Multi-Stage DCF model suffers from the same concerns I have with the
2 Constant Growth DCF model (i.e., unsustainably high utility valuations and low dividend
3 yields) and produces even lower ROE estimates when a projected GDP growth rate of 4.45
4 percent is used in the terminal stage (in the case of Mr. Gorman) or an inflation rate of 1.83
5 percent (in the case of Mr. Ellis). The GDP growth rates themselves are not unreasonable;
6 it is their use as a limit on the earnings growth of utilities that have exhibited stronger
7 growth historically. Use of an inflation rate as a proxy for earnings growth has no
8 reasonable basis of support.

9 **VII. CAPM ANALYSIS**

10 **Q. Before responding to the Intervenor Witnesses' criticisms of your CAPM analysis,**
11 **are there areas of agreement with respect to your respective CAPM analyses?**

12 A. Yes, there are. First, Dr. Woolridge, Mr. Gorman, and Mr. Ellis, and I agree that the 30-
13 year Treasury bond yield is appropriate to use as the risk-free rate.⁴¹ Second, although
14 certain of the Intervenor Witnesses disagree with the use of projected interest rates, Mr.
15 Gorman includes a projection of the 30-year Treasury in his analysis, suggesting he
16 believes that the current rate underestimates the expected risk-free rate.⁴² Third, Dr.
17 Woolridge relies on Value Line Beta coefficients.⁴³

18 **Q. Are CAPM results developed by certain Intervenor Witnesses reasonable?**

19 A. No, they are not. Dr. Woolridge's CAPM result (7.40 percent) and Mr. Ellis' CAPM result
20 (4.93 percent) are below the lowest authorized ROE for any natural gas utility in the last

⁴¹ Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 59-60; Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-32; Direct Testimony of Mark E. Ellis (Exhibit PCF-01) at 70.

⁴² Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-32.

⁴³ Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 61-62.

1 40 years.⁴⁴ Estimates as low as 4.93 percent are below the reported cost of debt for utilities
2 in July 2022.⁴⁵ Debt investors require a return commensurate with the risk that the
3 company will fail to meet that obligation. However, equity investors bear the residual risk
4 associated with ownership, and have a claim on cash flows only after debt holders are paid.
5 As such, equity holders bear greater risk and therefore require a higher return. The fact
6 that Mr. Ellis' CAPM analysis produces a result that are more in-line with debt returns than
7 with equity returns demonstrates Mr. Ellis' inputs are unreasonable and their results should
8 be disregarded.

9 **A. Risk-Free Rate**

10 **Q. Dr. Woolridge questions the accuracy of interest rate forecasts and objects to your**
11 **use of a projected 30-year Treasury bond yield as the risk-free rate.⁴⁶ How do you**
12 **respond?**

13 A. As explained earlier in this Rebuttal Testimony and in my Direct Testimony, I believe the
14 use of projected 30-year Treasury bond yields as the risk-free rate in the CAPM analysis is
15 appropriate because interest rates are expected to increase from current levels. It is not
16 reasonable to use the current average 30-year Treasury bond yield of 3.16 percent as the
17 risk-free rate when investors are expecting that Treasury bonds will yield 3.80 percent over
18 the period from 2024-2028, according to Blue Chip's June 2022 long-term outlook. In
19 addition, I do not share Dr. Woolridge's concerns with the accuracy of projected bond
20 yields. This is because the cost of equity depends on what investors expect, not what

⁴⁴ Source: S&P Capital IQ Pro, Regulatory Research Associates.

⁴⁵ The Moody's Utility Bond Index for Baa-rated Utility debt was as high as 5.34 percent on July 8, 2022 (Source: Bloomberg Professional).

⁴⁶ See, e.g., Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 60.

1 actually happens. Nonetheless Dr. Woolridge has not presented any evidence that current
2 interest rates are any more accurate at predicting future interest rates.

3 Further, even though I do not agree with the exclusive reliance on the current
4 average Treasury bond yield as the risk-free rate, I note using current bond yields in the
5 CAPM model produces results (shown in Rebuttal Exhibit JMC-3.2) well above the DCF
6 model results and much higher than the CAPM results put forth by Dr. Woolridge, Mr.
7 Gorman, and Mr. Ellis. My conclusion is that it is reasonable and appropriate to use the
8 projected 30-year Treasury bond yield as the risk-free rate under current market conditions
9 and the use of a current risk-free rate understates the forward-looking cost of equity
10 estimate from the CAPM analysis.

11 **B. Beta**

12 **Q. How do the Intervenor Witnesses estimate Beta?**

13 A. As discussed above, Dr. Woolridge relies on Value Line Beta coefficients.⁴⁷ Mr. Gorman
14 considered Value Line Beta coefficients before ultimately relying on a long-term historical
15 average of Value Line Beta coefficients.⁴⁸ Mr. Ellis relies on Zacks and Yahoo! Finance
16 estimates of Beta that are calculated based on monthly returns, rather than the weekly
17 convention used by Value Line and Bloomberg.

⁴⁷ Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 61-62.

⁴⁸ Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-33, IX-38.

1 **Q. Dr. Woolridge and Mr. Gorman observe that current Beta coefficients from Value**
2 **Line are higher than the historical average for the natural gas utility industry.⁴⁹ Do**
3 **you view this as a reason to adjust the current Beta coefficients?**

4 A. No, I do not. Beta is the measure of relative risk in the CAPM analysis. The utility industry
5 has typically had lower than average Beta coefficients because utilities generally tend to
6 be less volatile than the broad market. However, as discussed in my direct testimony,⁵⁰
7 that was not the case during the market dislocation that occurred in response to the COVID-
8 19 pandemic. Five-year Beta coefficients from both Value Line and Bloomberg increased
9 substantially in February and March 2020 to levels not seen since the financial crisis of
10 2008/2009 and have remained at those elevated levels ever since.⁵¹ In my view, there is no
11 reason to use the longer-term average Beta coefficients, as suggested by Mr. Gorman,
12 because both Value Line and Bloomberg Beta coefficients are calculated using five years
13 of weekly return data against a broad market index (either the S&P 500 or the NYSE
14 Composite). This five year period pre-dates the COVID-19 period by 2.5 years, which
15 suggests that the proxy group Beta coefficients are being affected by factors other than the
16 pandemic.

17 As discussed in my direct testimony, natural gas utilities have not served as a safe
18 haven for investors during the recent economic downturn.⁵² Beta coefficients for natural
19 gas utilities remain at elevated levels. This shift may also be attributable to the market's

⁴⁹ Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 54-55; Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-33–IX-34.

⁵⁰ Direct testimony of James M. Coyne (Exhibit SCG-04) at 17-19.

⁵¹ *Id.* at 30-31 and 50.

⁵² *Id.* at 6.

1 recognition of the complex challenges facing the industry in response to climate change,
2 transitioning to a lower carbon generation mix, and shifting consumer preferences.

3 I do not agree with Dr. Woolridge's concerns with Value Line's methodology for
4 calculating Beta coefficients, including the time period over which Betas are calculated,
5 the market index that is used to compute weekly returns for the broader market, and the
6 Blume adjustment that is intended to take into account the tendency of Beta to regress to
7 the market mean of 1.0 over time. I note that Beta is a measure of relative risk in the CAPM
8 analysis. While utilities have underperformed the broader market since January 2020, Beta
9 coefficients demonstrate that utilities have traded more in line with the broad market than
10 they have historically, suggesting that the view of utilities as a low-risk, defensive sector
11 is moderated by structural shifts affecting the industry. In the end, Dr. Woolridge relies on
12 Value Line's Beta coefficients.

13 C. Market Risk Premium

14 **Q. Some Witnesses challenge the forward-looking market risk premium you have used**
15 **in your CAPM analysis.⁵³ Can you please respond to their concerns?**

16 **A.** The use of a forward-looking or projected market risk premium ("MRP") is appropriate
17 because the use of historical market return data does not reflect the inverse relationship
18 between interest rates and the equity risk premium. The Ibbotson data that is used to
19 calculate the historical MRP of 7.46 percent indicates that the long-term average return on
20 large company stocks from 1926-2021 was 12.33 percent, while the average income-only
21 return on government bonds was 4.87 percent over the same period.⁵⁴ It is therefore not

⁵³ Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 95-106; Direct Testimony of at Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-47; Direct Testimony of Mark. E. Ellis (Exhibit PCF-01) at 69-70.

⁵⁴ Source: Duff & Phelps

1 reasonable to use the historical MRP when the current average yield on the 30-year
2 Treasury bond is 3.16 percent, or approximately 171 basis points *lower* than the bond yield
3 used to calculate the historical MRP. With interest rates at these levels, the forward-
4 looking MRP should be *higher* than 7.46 percent.

5 Second, the method I have used to calculate the forward-looking MRP is consistent
6 with the methodology used by FERC in Opinion No. 531-B.⁵⁵ Specifically, the forward-
7 looking MRP in my CAPM analysis is derived by calculating the expected total return for
8 the companies in the S&P 500 Index less the projected risk-free rate. It is appropriate to
9 include growth rates for non-dividend paying companies because when investors purchase
10 the Index or a mutual fund or exchange traded fund that mirrors the Index, their total return
11 is based on the returns for all 500 companies in the Index, not only those companies that
12 pay dividends, or those with positive EPS growth rates or growth rates less than 20 percent.
13 Further, my MRP calculation is internally consistent because the Betas used in my CAPM
14 analysis are calculated against all companies in the S&P 500 Index or the NYSE Composite
15 Index, not just against those companies that pay dividends or have positive growth rates or
16 growth rates less than 20 percent.

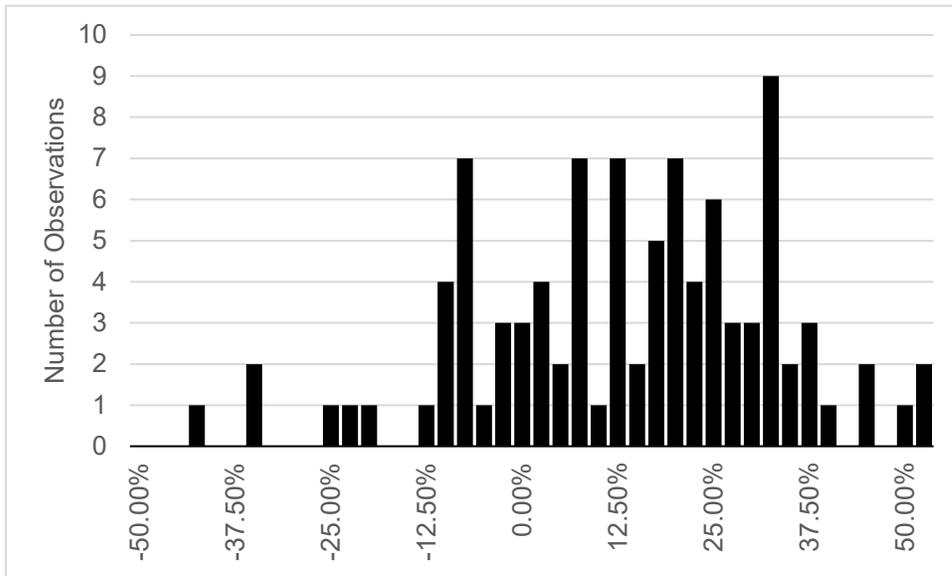
17 Dr. Wooldridge refers to the compounded annual return for the broad market as
18 being about 10.0 percent.⁵⁶ Dr. Woolridge argues that the total market return used in my
19 forward-looking MRP calculation is not reasonable on that basis. However, these averages
20 obscure the wide distribution in realized equity returns from year to year. I have analyzed
21 the annual performance of the S&P 500 from 1926-2021. As shown in Figure 9 below, the

⁵⁵ See *MISO Transmission Owners, et al. v. FERC*, No. 16-1325 (Aug. 9, 2022) (slip op.) at 17-24 (upholding FERC's CAPM methodology).

⁵⁶ Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 94.

1 actual return on the S&P 500 Index has exceeded 15 percent in 50 percent (48 out of 96)
 2 of the years from 1926-2021. These data demonstrate that actual total returns for the broad
 3 market greater than 15 percent are not uncommon, as alleged by Dr. Woolridge.

4 **Figure 9: Total Returns of S&P 500 Index – 1926-2021⁵⁷**



5
 6 In my updated results, my estimated total market return has declined from 15.62 as
 7 estimated in my Direct Testimony to 14.76 percent. This produces a MRP of 10.96 percent
 8 (applying the projected risk-free rate) based on EPS growth rates for the S&P 500
 9 companies from S&P, Bloomberg, and Value Line.

10 **Q. Dr. Woolridge and Mr. Gorman apply market risk premia based on historical data**
 11 **or surveys.⁵⁸ How do you respond?**

12 **A.** The use of a historical market risk premium is not appropriate under current market
 13 conditions because it does not reflect the inverse relationship between interest rates and the

⁵⁷ Source: Duff & Phelps, 2021 SBBI Yearbook, Appendix A-1.

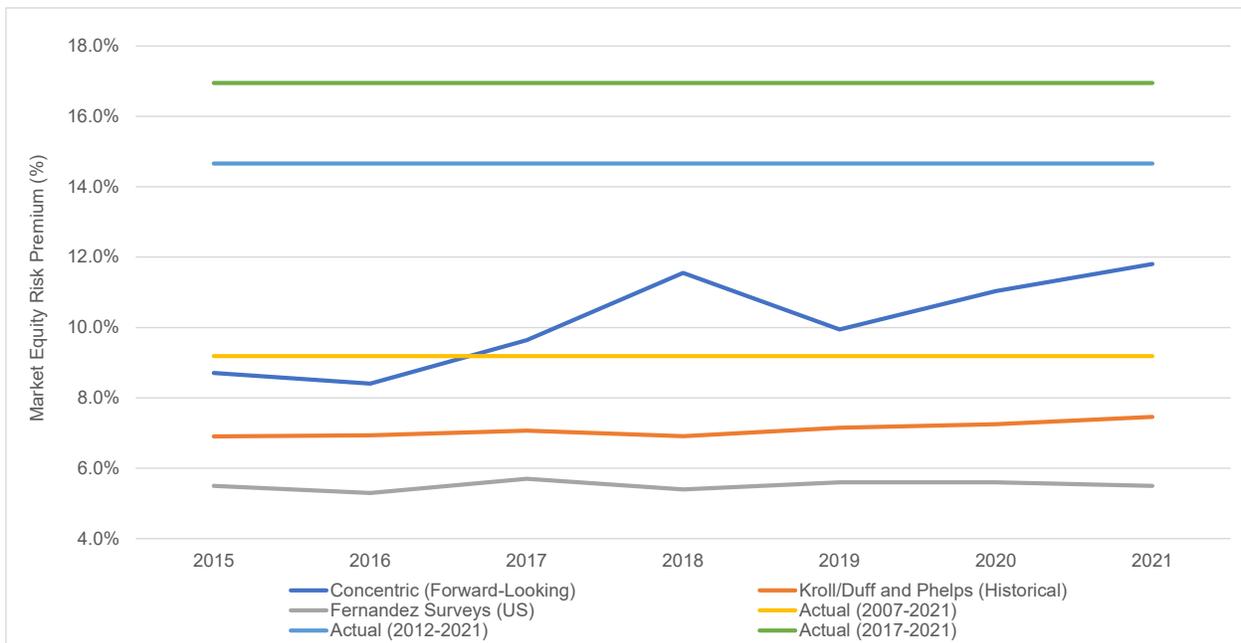
⁵⁸ Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 66-70; Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-35–IX-36.

1 equity risk premium, nor the earnings growth for today's S&P 500 companies. When the
2 current average yield on U.S. Treasury bonds is well below the long-term historical average
3 yield, it is reasonable to expect that the MRP would be well above the historical average
4 market risk premium. Consequently, the long-term average historical market risk premium
5 would be appropriate only if the expected risk-free rate was consistent with the long-term
6 historical risk-free rate.

7 **Q. Do you agree with Dr. Woolridge's reliance on surveys of expected returns?**

8 A. No, I do not. As a case in point, Figure 10 below demonstrates just how far off the surveys
9 have been over the past seven years in relation to the forward-looking approach I have
10 used. The survey-based returns have substantially underestimated market performance,
11 and even the forward-looking approach is less than actual returns.

12 **Figure 10: Market Equity Risk Premium Methods**



13
14 Dr. Woolridge points to surveys of *expected* returns, which are not the same as *required*
15 returns. The task of estimating the cost of equity is to estimate the investors' *required*

1 return, not investors' *expected* returns. Therefore, the Commission should not rely on
2 surveys to measure the expected market return applied in the CAPM.

3 **Q. What is your conclusion with regard to the CAPM?**

4 A. My conclusion is that using reasonable forward-looking inputs for the risk-free rate and
5 MRP, along with current Betas from Value Line and Bloomberg, the CAPM is producing
6 results that should be considered along with the results from the DCF, Risk Premium and
7 Expected Earnings models.

8 **VIII. RISK PREMIUM MODEL**

9 **Q. Several of the Intervenor Witnesses challenge the use of a Risk Premium model such**
10 **as the one you have presented, or they contend that your application of the Risk**
11 **Premium model is not reasonable.⁵⁹ How do you respond to their concerns?**

12 A. Dr. Woolridge has expressed three primary concerns regarding my Risk Premium analysis:
13 (1) that I have used historical authorized ROEs and Treasury yields and applied the
14 resulting risk premium to projected Treasury yields; (2) that the analysis is a gauge of
15 regulatory commission behavior not investor behavior, and (3) that my methodology
16 produces an inflated required rate of return because utilities have been selling at M/B ratios
17 well in excess of 1.0 for many years.⁶⁰

18 With regard to Dr. Woolridge's first concern, my Risk Premium analysis
19 determines the appropriate risk premium based on the relationship between historic
20 authorized ROEs for natural gas utilities and Treasury bonds yields. FERC has adopted a

⁵⁹ See, e.g., Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 107-108; Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-50-53; Direct Testimony of Richard McCann (Exhibit EDF-01) at 40-42; Direct Testimony of Mark E. Ellis (Exhibit PCF-01) at 69-70.

⁶⁰ Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 107-108.

1 similar approach in one of its approved methodologies for setting ROEs for electric
2 transmission companies.⁶¹ I disagree with Dr. Woolridge that it is incorrect to apply the
3 historical risk premium from this analysis to current and projected Treasury yields in order
4 to estimate the ROE at specified interest rates. As shown in Rebuttal Exhibit JMC-4, my
5 Risk Premium analysis is supported by a regression equation that evaluates the relationship
6 between Treasury bond yields and the equity risk premium over time. The regression
7 equation has an R² of 0.86, meaning that it can be used to predict the equity risk premium
8 at differing levels of interest rates. In other words, my Risk Premium analysis is designed
9 to do exactly what Dr. Woolridge suggests it cannot – that is, use the historical relationship
10 between bond yields and equity risk premia to predict how investors will react to changes
11 in interest rates as a result of monetary policy and economic conditions.

12 In response to Dr. Woolridge’s second concern, while my Risk Premium analysis
13 is based on authorized ROEs and the corresponding Treasury yields at the time the
14 regulatory decisions were issued, I believe that investors are informed by allowed ROEs
15 from hundreds of rate case decisions to frame their return expectations. A fundamental
16 principle in setting a just and reasonable return is that the return must be comparable to
17 returns available to investors in companies with commensurate risk. In that regard, the
18 returns that have been authorized for other natural gas utility companies is one relevant
19 consideration for investors. This analysis must, however, reflect interest rates that
20 prevailed when these ROEs were set and adjusted for current or projected rates to be valid.

⁶¹ Federal Energy Regulatory Commission, Opinion No. 569-A, Order on Rehearing, issued May 21, 2020, at para. 105-106 and 108-109. On August 9, 2022, the U.S. Court of Appeals vacated the FERC Order 569 decisions that related to its risk premium model and remanded the case to FERC to reopen proceedings. It is unclear as to how FERC will proceed with respect to the Risk Premium approach.

1 This analysis shows what those returns are in relation to the risk-free rate, so that it is
2 possible to use historical returns to estimate future returns given current and projected
3 Treasury yields.

4 In response to Dr. Woolridge's third concern, I have previously addressed this in
5 the capital markets section of this Rebuttal testimony. As demonstrated there, utility M/B
6 ratios have increased not because authorized returns were higher than the true cost of
7 equity, but because interest rates on government bonds have steadily declined for the past
8 four decades. Low interest rates are favorable for capital-intensive industries such as
9 utilities, while increasing interest rates are not.

10 Mr. Gorman also expresses several concerns with my Risk Premium analysis,
11 including: 1) he disputes the inverse relationship between interest rates and risk premia;
12 2) he claims that, while academic studies have shown that in the past there was such an
13 inverse relationship, the relationship has changed over time, particularly since interest rate
14 volatility is not as extreme as it was in the 1980s; and 3) he contends that I have ignored
15 investment risk differentials in my regression analyses, and that my adjustment to the
16 equity risk premium is based exclusively on changes in nominal interest rates.⁶²

17 In response to Mr. Gorman's first concern, there is a large body of research in
18 addition to my own statistical analyses that supports the inverse relationship between
19 interest rates and equity risk premia, including the March 1998 article published by Dr. S.
20 Keith Berry, which came to similar conclusions regarding the inverse relationship between
21 interest rates and the risk premia.⁶³ Several other studies were published after those that

⁶² Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-50-IX-52.

⁶³ See, e.g., S. Keith Berry, *Interest Rate Risk and Utility Risk Premia during 1982-93*, Managerial and Decision Economics, Vol. 19, No. 2 (March, 1998), in which the author used a methodology similar

1 Mr. Gorman cites as evidence that this inverse relationship is a relic of the 1980s. As
2 summarized in Dr. Roger Morin's *New Regulatory Finance*, two of these studies were
3 published in 2005, demonstrating that the inverse relationship between interest rates and
4 the equity risk premium are contemporary concepts in finance:

5 Published studies by Brigham, Shome, and Vinson (1985), Harris (1986),
6 Harris and Marston (1992, 1993), Carleton, Chambers, and Lakonishok
7 (1983), Morin (2005), and McShane (2005), and others demonstrate that,
8 beginning in 1980, risk premiums varied inversely with the level of interest
9 rates—rising when rates fell and declining when interest rates rose. The
10 reason for this relationship is that when interest rates rise, bondholders
11 suffer a capital loss. This is referred to as interest rate risk.... Conversely
12 in low interest rate environments, when bondholders' interest rate fears
13 subside and shareholders' fears of loss of earning power dominate, the risk
14 differential will widen and hence the risk premium will increase.⁶⁴

15 Furthermore, as discussed previously, my Risk Premium analysis has an R^2 of
16 approximately 0.86, which indicates that there is a high degree of correlation between the
17 equity risk premium and changes in interest rates.

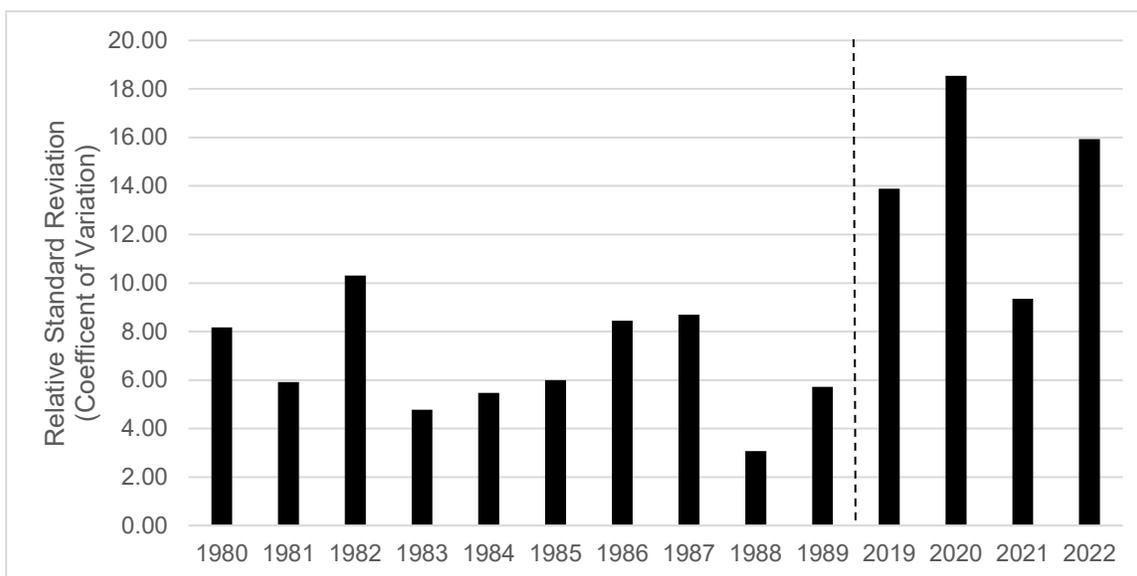
18 With regard to Mr. Gorman's statement that interest rate volatility was more
19 extreme in the 1980s than it is today, I conducted an analysis that compares the volatility
20 in 30-year Treasury bond yields in each year during the 1980s to the volatility from 2019
21 to present. As shown in Figure 12, the relative standard deviation of Treasury bond yields
22 is substantially higher in 2022 than it was during any year in the 1980s, indicating that
23 interest rate volatility is higher in recent years than it was in the 1980s, and has been higher
24 since 2019 than all but one year during the 1980s (i.e., 1982).

to the regression approach described below, including using allowed ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates.

⁶⁴ Morin, Roger A., *New Regulatory Finance*, Public Utilities Reports, Inc. (2006), at 128.

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Figure 12: Treasury Bond Yield Volatility⁶⁵



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In response to Mr. Gorman’s third concern, he contends that I have ignored investment risk differentials in my regression analyses, and that my adjustment to the equity risk premium is based exclusively on changes in nominal interest rates. I agree that my analysis is based solely on the relationship to interest rates. But with an R^2 of 0.86, the relationship to interest rates accounts for 86 percent of the change in awarded ROEs, which is quite strong. In addition, the inclusion of 728 rate cases over a 30-year period provides a broad perspective on case-specific issues. To the extent that shifts in industry risk are left out of this equation, the recent increases in utility betas would suggest that the Risk Premium results are biased downwards, and would likely understate the cost of equity. This relationship is picked up directly, however, in the CAPM model, and these results are meaningfully higher. Therefore, I believe the model is useful as a method to estimate the

⁶⁵ Source: Bloomberg Professional.

1 cost of equity for natural gas utilities like SoCalGas, along with the results from the DCF,
2 CAPM, and Expected Earnings models.

3 **IX. EXPECTED EARNINGS ANALYSIS**

4 **Q. Some Intervenor Witnesses disagree with the use of an Expected Earnings analysis to**
5 **estimate the cost of equity for SoCalGas in this proceeding.⁶⁶ What is your response?**

6 A. Dr. Woolridge contends that there are a number of issues with the Expected Earnings
7 approach, claiming: 1) it does not measure the market cost of equity capital; 2) changes in
8 ROE ratios do not track capital market conditions; 3) the approach is circular; 4) the proxy
9 companies' projected ROEs reflect earnings on business activities that are not
10 representative of SoCalGas's rate-regulated natural gas utility operations; and 5) the Value
11 Line data used to develop the Expected Earnings analysis is biased upward and reflects the
12 views of only one analyst.⁶⁷ I do not agree with these contentions.

13 In response to Dr. Woolridge's concerns, the *Hope* and *Bluefield* standards establish
14 that a utility should be granted the opportunity to earn a return that is commensurate with
15 the return on other investments of similar risk. Therefore, it is reasonable to consider the
16 returns that investors expect to earn on the common equity of the natural gas utility
17 companies in the proxy group as a benchmark for a just and reasonable return because that
18 is the expected earned ROE that an investor will consider in determining whether to

⁶⁶ See, e.g., Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 108-112; Direct
Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-53–IX-55; Direct Testimony of
Richard McCann (Exhibit EDF-01) at 40-42; Testimony of Mark E. Ellis (Exhibit PCF-01) at 7-9.

⁶⁷ Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 108-112.

1 purchase shares in the company or to seek alternative investments with a better risk/reward
2 profile. As Dr. Morin notes:

3 The Comparable Earnings standard has a long and rich history in regulatory
4 proceedings, and finds its origins in the fair return doctrine enunciated by
5 the U.S. Supreme Court in the landmark Hope case. The governing principle
6 for setting a fair return decreed in Hope is that the allowable return on equity
7 should be commensurate with returns on investments in other firms having
8 comparable risks, and that the allowed return should be sufficient to assure
9 confidence in the financial integrity of the firm, in order to maintain
10 creditworthiness and ability to attract capital on reasonable terms. Two
11 distinct standards emerge from this basic premise: a standard of Capital
12 Attraction and a standard of Comparable Earnings. The Capital Attraction
13 standard focuses on investors' return requirements, and is applied through
14 market value methods described in prior chapters, such as DCF, CAPM, or
15 Risk Premium. The Comparable Earnings standard uses the return earned
16 on book equity investment by enterprises of comparable risks as the
17 measure of fair return.⁶⁸

18 Dr. Woolridge fails to note in his critique of the Expected Earnings analysis that the
19 authorized ROE that is established in this case will be applied to the net book value of the
20 Company's authorized rate base (subject to certain regulatory adjustments). In this regard,
21 the Expected Earnings approach provides valuable insight into the opportunity cost of
22 investing in SoCalGas's natural gas utility operations. If investors devote capital to the
23 Company (which would offer a return of only 8.75 percent on book value if Dr.
24 Woolridge's recommendation were adopted), they forgo the opportunity for that same
25 capital to earn a potentially greater return on book value through investment in the proxy
26 companies. As a result, the Expected Earnings approach is informative because it provides

⁶⁸ New Regulatory Finance, Roger A. Morin Ph.D., Public Utility Reports, 2006, at 381.

1 a measure of the return on book value that is available to investors through other
2 investments with comparable risk to SoCalGas.

3 **Q. Please comment on Dr. Woolridge's references to Dr. Morin's statements in *New***
4 ***Regulatory Finance* as it pertains to the Expected Earnings analysis.⁶⁹**

5 A. Dr. Woolridge references Dr. Morin, who does discuss some of the weaknesses of the
6 Expected Earnings analysis. However, in *New Regulatory Finance*, Dr. Morin discusses
7 the strengths and weaknesses of each of the methodologies used to compute the cost of
8 equity including the DCF and CAPM analyses. Additionally, Dr. Woolridge fails to
9 mention Dr. Morin's conclusion regarding the Expected Earnings analysis. Specifically,
10 Dr. Morin stated:

11 The Comparable Earnings approach is far more meaningful in the
12 regulatory arena than in the sphere of competitive firms. Unlike industrial
13 companies the earnings requirement of utilities is determined by applying a
14 percentage rate of return to the book value of a utility's investment, and not
15 on the market value of that investment. Therefore, it stands to reason that a
16 different percentage rate of return than the market cost of capital be applied
17 when the investment base is stated in book value terms rather than market
18 value terms. In a competitive market, investment decisions are taken on the
19 basis of market prices, market values, and market cost of capital. **If**
20 **regulation's role was to duplicate the competitive result perfectly, then**
21 **the market cost of capital would be applied to the current market value**
22 **of rate base assets employed by utilities to provide service. But because**
23 **the investment base for ratemaking purposes is expressed in book value**
24 **terms, a rate of return on book value, as is the case with Comparable**
25 **Earnings, is highly meaningful.⁷⁰**

26 Therefore, contrary to Dr. Woolridge's views, Dr. Morin believes that the Expected
27 Earnings approach is highly meaningful in a regulatory setting similar to the one being
28 used to set the cost of equity for SoCalGas.

⁶⁹ Direct testimony of Dr. J. Randall Woolridge (Exhibit Cal Adv-01) at 108-109.

⁷⁰ New Regulatory Finance, Roger A. Morin Ph.D., Public Utility Reports, 2006, at 394-395. (Emphasis added)

1 **Q. Please summarize Mr. Gorman’s position regarding your Expected Earnings**
2 **analysis.**

3 A. Mr. Gorman argues that my Expected Earnings analysis “should be rejected because this
4 approach does not measure the market required return appropriate for the investment risk
5 of SoCalGas. Rather, it measures the book accounting return.”⁷¹ In addition, Mr. Gorman
6 contends that “the earned return on book equity is simply not an accurate or legitimate
7 basis upon which to determine a fair and reasonable return on equity for both investors and
8 customers.”⁷²

9 **Q. What is your response to Mr. Gorman’s concerns related to the Expected Earnings**
10 **approach?**

11 A. The Expected Earnings approach provides an expected return for like-risk companies,
12 which is a core strength of the model and consistent with the basic tenets of *Hope*, which
13 requires that “the return to the equity owner should be commensurate with returns on
14 investments in other enterprises having corresponding risks.” Arguably, an investor would
15 consider both current market valuations in deciding between companies of like risk and the
16 value of the expected return on book value. Lastly, in developing his sustainable growth
17 rates for the DCF model, Mr. Gorman assumes the reasonableness of the projected returns
18 on equity from Value Line for the proxy group companies, which are the same returns that
19 he dismisses as unreliable in the Expected Earnings analysis.

20 Although the FERC has not included the Expected Earnings analysis in its most
21 recent orders setting its ROE methodology (i.e., Opinion Nos. 569-A and 569-B) for
22 electric transmission companies, FERC has left the door open for presentation of an

⁷¹ Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-53.

⁷² *Id.* at VII-55.

1 Expected Earnings analysis on a case-by-case basis.⁷³ In my view, the Expected Earnings
2 analysis provides a more stable picture of the returns that investors are expecting for
3 companies in the Natural Gas Utility sector based on Value Line data. This stability is due
4 to Value Line's analysis and projections which change when updated, in contrast to the
5 CAPM and DCF results which shift with more volatile market data. Moreover, as
6 explained in this section, the use of accounting returns is appropriate because the
7 authorized ROE is being applied to an accounting rate base in order to determine the net
8 income a company is authorized to recover in rates. For all of these reasons, I continue to
9 support the use of an Expected Earnings analysis as one model to estimate the cost of equity
10 for SoCalGas in this proceeding.

11 **X. BUSINESS RISK**

12 **Q. Do you agree with the Intervenor Witnesses (Woolridge, Gorman) who contend that**
13 **credit ratings take into account all business and financial risks that are relevant to**
14 **investors?**

15 A. Credit ratings, while important, are not the only consideration in assessing business or
16 financial risk, and the risks for equity investors are not the same as the risks for
17 bondholders. Credit ratings are assessments of the likelihood a company could default on
18 its *debt*, whereas, the purpose of setting and ROE is to determine the riskiness and cost of
19 the Company's *equity*. Equity investors are more concerned with earnings and rate base
20 growth, regulatory support for recovery of prudently-incurred costs, the strength of the
21 local economy and housing markets, capital spending, changes in interest rates, changes in

⁷³ Federal Energy Regulatory Commission, Opinion No. 569-A, Order on Rehearing, issued May 21, 2020, at para. 132.

1 long-term weather patterns, and more recently exposure and opportunities related to
2 decarbonization of the industry. Bondholders focus more on stability and predictability of
3 cash flows and timeliness of cost recovery.

4 As discussed in my Direct Testimony, SoCalGas has unique business risks that
5 differentiate it from the proxy group. These risks include elevated capital spending, the
6 magnitude of California's clean energy mandates, and regulatory risk.⁷⁴ Further, while I
7 have considered these business risks, it is important to recognize that I did not make an
8 adjustment to my ROE recommendation for business risk even though my testimony
9 demonstrates that SoCalGas has higher business risk than the proxy group on certain
10 important factors. Instead, I relied on the mean results of the four financial models I used
11 to estimate the cost of equity for SoCalGas.

12 **Q. Ms. Yap argues that the Company's rate structures and memorandum accounts**
13 **mitigate SoCalGas's risk.⁷⁵ What is your response?**

14 A. As explained in the Direct Testimony of Ms. Ng,⁷⁶ certain regulatory accounts allow
15 utilities to track costs and seek cost recovery at a later date, which is generally viewed
16 positively as a risk mitigation tool by the investment community and rating agencies. That
17 said, the number of regulatory accounts and associated undercollections are forecasted to
18 grow, and memorandum accounts do not guarantee cost recovery, which increases risk for
19 the utility and may negatively impact cash flows, credit metrics, and capital structure. It is
20 important to remember that the cost of equity is a comparative exercise. As such, the
21 relevant point of comparison is the Company's risk relative to its peers. As explained in

⁷⁴ Direct Testimony of James M. Coyne (Exhibit SCG-04) at 51-54.

⁷⁵ Direct Testimony of Catherine E. Yap (Exhibit SCGC-01) at 2-3.

⁷⁶ Direct Testimony of Deana M. Ng (Exhibit SCG-03) at 21-22.

1 my Direct Testimony and shown in Exhibit JMC-9, a substantial majority of the proxy
2 group companies employ a variety of rate structures and mechanisms to mitigate regulatory
3 lag. As demonstrated in my direct testimony, the regulatory structures and mechanisms
4 available to SoCalGas create no discernable difference in mitigating risk from the
5 perspective of the investment community than those in place at the proxy companies.⁷⁷

6 Further, the relevant comparison is investors' view of risk mitigation offered by the
7 regulatory mechanisms. Regulatory Research Associates ("RRA") maintains ratings
8 category evaluations of the various regulatory jurisdictions. Ratings are assigned from an
9 investor perspective and indicate the relative regulatory risk associated with the ownership
10 of securities issued by the jurisdiction's utilities. RRA ranks California as "Average/2"
11 which is the midpoint of its ratings categories. As a result, from an investor perspective,
12 SoCalGas is no less risky than the proxy companies on account of its regulatory
13 mechanisms.

14 **XI. CAPITAL STRUCTURE**

15 **Q. Some Intervenor Witnesses (Woolridge, Gorman) present capital structure analyses**
16 **of the proxy group companies at the holding company level,⁷⁸ and disagree with**
17 **SoCalGas's proposed capital structure. What is your response?**

18 A. Dr. Woolridge's analyses do not provide an apples-to-apples assessment. Because capital
19 at the parent holding company level may finance unregulated operations, comparisons to
20 the parent company capital structure may lead to flawed and misleading conclusions. The
21 Intervenor Witnesses' comparisons of the Company's requested capital structure to the

⁷⁷ Direct Testimony of James M. Coyne (Exhibit SCG-04) at 35.

⁷⁸ See, e.g., Direct Testimony of J. Randall Woolridge (Exhibit Cal Adv-01) at 30-31; Direct Testimony of Michael P. Gorman (Exhibit EPUC/IS/TURN-1) at IX-3–IX-9.

1 proxy group holding company capital structure that reflects both regulated and unregulated
2 operations lead to their erroneous conclusion that the Company's financial risk is lower
3 than the proxy group.

4 The capital structure analysis presented in Exhibit JMC-10 of my Direct Testimony
5 calculates the actual capital structures in place only for the proxy companies' regulated
6 utility operations. It therefore provides an apples-to-apples assessment of the
7 reasonableness of SoCalGas's requested capital structure. As shown in Exhibit JMC-10,
8 the Company's requested equity ratio of 54.00 percent (as described in Ms. Arazi's
9 Rebuttal Testimony) is within the range of the proxy group's operating utilities' actual
10 equity ratios, demonstrating SoCalGas's requested capital structure is consistent with those
11 in place at the proxy group, and is therefore reasonable and should be approved.

12 **XII. CONCLUSIONS**

13 **Q. What is your conclusion regarding a fair ROE for SoCalGas?**

14 A. My key conclusions and recommendations are as follows:

15 1) The Commission has been presented with a broad array of recommendations
16 from multiple witnesses. Some include proposed analytical approaches, while others are
17 more judgmental or based on decisions from other jurisdictions.

18 2) The only reliable method for determining the cost of capital is through the
19 application of rigorous analysis using financial models and market data from reliable
20 sources, coupled with a comprehensive risk assessment of the regulated utility.

21 3) The Commission's cost of capital determination should consider the general
22 economic and capital market environment and the influence capital market conditions exert
23 over the results of the ROE estimation models.

1 4) Interest rates on government, corporate, and utility bonds have increased
2 substantially in 2022 and projections suggest a continued upward pressure in the coming
3 years. This increase in the cost of capital, and other risk factors indicate that the uncertainty
4 and volatility in financial markets have caused equity investors to require a higher rate of
5 return and specifically for natural gas utilities.

6 **Q. What is your conclusion regarding a fair ROE for SoCalGas?**

7 A. Based on my updated DCF, CAPM, Bond Yield Plus Risk Premium, and Expected
8 Earnings analyses, I continue to find a reasonable range of ROE for SoCalGas to be in the
9 range of 10.00 percent to 11.00 percent and the Company's requested ROE of 10.75 percent
10 to be fair and appropriate.

11 **Q. What is your recommendation with regard to the capital structure for SoCalGas in
12 this proceeding?**

13 A. I support Ms. Arazi's proposal with regards to authorized capital structure of 54.0 percent
14 common equity 0.4 percent preferred equity, and 45.6 percent long-term debt as reasonable
15 relative to the risk profile of SoCalGas and the range of actual capital structures for the
16 operating companies held by the proxy group companies.

17 **Q. Does this conclude your rebuttal testimony?**

18 A. Yes, it does.

Rebuttal Exhibit JMC-1

Comprehensive Summary of ROE Results

COMBINED DCF, CAPM, RISK PREMIUM AND EXPECTED EARNINGS RESULTS - CURRENT INTEREST RATES

Company		30-Day DCF	90-Day DCF	180-Day DCF	CAPM VL Beta	CAPM BB Beta	AVG DCF	AVG CAPM	Risk Premium	Expected Earnings	Four-Model Average
Atmos Energy Corporation	ATO	10.06%	10.00%	10.12%	12.44%	12.25%	10.06%	12.35%	9.86%	9.44%	10.42%
New Jersey Resources Corporation	NJR	9.07%	9.00%	9.17%	14.18%	12.85%	9.08%	13.51%	9.86%	12.42%	11.22%
NiSource Inc.	NI	11.33%	11.17%	11.31%	13.02%	12.86%	11.27%	12.94%	9.86%	11.83%	11.47%
Northwest Natural Gas Company	NWN	8.78%	8.83%	8.97%	12.44%	11.49%	8.86%	11.97%	9.86%	9.73%	10.10%
ONE Gas, Inc.	OGS	8.66%	8.51%	8.67%	12.44%	12.59%	8.61%	12.52%	9.86%	7.91%	9.72%
Spire, Inc.	SR	10.02%	9.92%	10.18%	12.44%	12.37%	10.04%	12.41%	9.86%	8.34%	10.16%
PROXY GROUP MEAN		9.65%	9.57%	9.74%	12.83%	12.40%	9.65%	12.62%	9.86%	9.94%	10.52%
PROXY GROUP MEDIAN		9.54%	9.46%	9.64%	12.44%	12.48%	9.56%	12.46%	9.86%	9.58%	10.29%
Range - Low		8.66%	8.51%	8.67%	12.44%	11.49%	8.61%	11.97%	9.86%	7.91%	9.72%
Range - High		11.33%	11.17%	11.31%	14.18%	12.86%	11.27%	13.51%	9.86%	12.42%	11.47%

COMBINED DCF, CAPM, RISK PREMIUM AND EXPECTED EARNINGS RESULTS - PROJECTED INTEREST RATES

Company		30-Day DCF	90-Day DCF	180-Day DCF	CAPM VL Beta	CAPM BB Beta	AVG DCF	AVG CAPM	Risk Premium	Expected Earnings	Four-Model Average
Atmos Energy Corporation	ATO	10.06%	10.00%	10.12%	12.57%	12.39%	10.06%	12.48%	10.13%	9.44%	10.53%
New Jersey Resources Corporation	NJR	9.07%	9.00%	9.17%	14.21%	12.95%	9.08%	13.58%	10.13%	12.42%	11.30%
NiSource Inc.	NI	11.33%	11.17%	11.31%	13.12%	12.97%	11.27%	13.04%	10.13%	11.83%	11.57%
Northwest Natural Gas Company	NWN	8.78%	8.83%	8.97%	12.57%	11.67%	8.86%	12.12%	10.13%	9.73%	10.21%
ONE Gas, Inc.	OGS	8.66%	8.51%	8.67%	12.57%	12.71%	8.61%	12.64%	10.13%	7.91%	9.82%
Spire, Inc.	SR	10.02%	9.92%	10.18%	12.57%	12.50%	10.04%	12.54%	10.13%	8.34%	10.26%
PROXY GROUP MEAN		9.65%	9.57%	9.74%	12.93%	12.53%	9.65%	12.73%	10.13%	9.94%	10.61%
PROXY GROUP MEDIAN		9.54%	9.46%	9.64%	12.57%	12.61%	9.56%	12.59%	10.13%	9.58%	10.39%
Range - Low		8.66%	8.51%	8.67%	12.57%	11.67%	8.61%	12.12%	10.13%	7.91%	9.82%
Range - High		11.33%	11.17%	11.31%	14.21%	12.97%	11.27%	13.58%	10.13%	12.42%	11.57%

Rebuttal Exhibit JMC-2

Constant Growth DCF Analysis

30-DAY CONSTANT GROWTH DCF

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth	Low DCF ROE	Mean DCF ROE	High DCF ROE
Atmos Energy Corporation	ATO	\$2.72	\$111.76	2.43%	2.53%	7.50%	7.70%	7.40%	7.53%	9.92%	10.06%	10.23%
New Jersey Resources Corporation	NJR	\$1.45	\$43.83	3.31%	3.40%	5.00%	6.00%	6.00%	5.67%	8.39%	9.07%	9.41%
NiSource Inc.	NI	\$0.94	\$28.66	3.28%	3.41%	9.50%	7.15%	7.10%	7.92%	10.50%	11.33%	12.94%
Northwest Natural Gas Company	NWN	\$1.93	\$52.75	3.66%	3.75%	6.50%	4.30%	4.30%	5.03%	8.04%	8.78%	10.28%
ONE Gas, Inc.	OGS	\$2.48	\$80.66	3.07%	3.16%	6.50%	5.00%	5.00%	5.50%	8.15%	8.66%	9.67%
Spire, Inc.	SR	\$2.74	\$72.06	3.80%	3.92%	9.00%	4.30%	5.00%	6.10%	8.18%	10.02%	12.97%
PROXY GROUP MEAN				3.26%	3.36%	7.33%	5.74%	5.80%	6.29%	8.86%	9.65%	10.92%

Notes

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals 30-day average as of July 29, 2022

[3] Equals [1] / [2]

[4] Equals [3] x (1 + 0.50 x [8])

[5] Source: Value Line

[6] Source: Yahoo! Finance

[7] Source: Zacks

[8] Equals Average ([5], [6], [7])

[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7]))

[10] Equals [4] + [8]

[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7]))

90-DAY CONSTANT GROWTH DCF

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth	Low DCF ROE	Mean DCF ROE	High DCF ROE
Atmos Energy Corporation	ATO	\$2.72	\$114.62	2.37%	2.46%	7.50%	7.70%	7.40%	7.53%	9.86%	10.00%	10.16%
New Jersey Resources Corporation	NJR	\$1.45	\$44.77	3.24%	3.33%	5.00%	6.00%	6.00%	5.67%	8.32%	9.00%	9.34%
NiSource Inc.	NI	\$0.94	\$30.04	3.13%	3.25%	9.50%	7.15%	7.10%	7.92%	10.34%	11.17%	12.78%
Northwest Natural Gas Company	NWN	\$1.93	\$52.05	3.71%	3.80%	6.50%	4.30%	4.30%	5.03%	8.09%	8.83%	10.33%
ONE Gas, Inc.	OGS	\$2.48	\$84.72	2.93%	3.01%	6.50%	5.00%	5.00%	5.50%	8.00%	8.51%	9.52%
Spire, Inc.	SR	\$2.74	\$73.88	3.71%	3.82%	9.00%	4.30%	5.00%	6.10%	8.09%	9.92%	12.88%
PROXY GROUP MEAN				3.18%	3.28%	7.33%	5.74%	5.80%	6.29%	8.78%	9.57%	10.83%

Notes

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals 90-day average as of July 29, 2022

[3] Equals [1] / [2]

[4] Equals [3] x (1 + 0.50 x [8])

[5] Source: Value Line

[6] Source: Yahoo! Finance

[7] Source: Zacks

[8] Equals Average ([5], [6], [7])

[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7]))

[10] Equals [4] + [8]

[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7]))

180-DAY CONSTANT GROWTH DCF

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth	Low DCF ROE	Mean DCF ROE	High DCF ROE
Atmos Energy Corporation	ATO	\$2.72	\$109.07	2.49%	2.59%	7.50%	7.70%	7.40%	7.53%	9.99%	10.12%	10.29%
New Jersey Resources Corporation	NJR	\$1.45	\$42.58	3.41%	3.50%	5.00%	6.00%	6.00%	5.67%	8.49%	9.17%	9.51%
NiSource Inc.	NI	\$0.94	\$28.83	3.26%	3.39%	9.50%	7.15%	7.10%	7.92%	10.48%	11.31%	12.92%
Northwest Natural Gas Company	NWN	\$1.93	\$50.23	3.84%	3.94%	6.50%	4.30%	4.30%	5.03%	8.23%	8.97%	10.47%
ONE Gas, Inc.	OGS	\$2.48	\$80.45	3.08%	3.17%	6.50%	5.00%	5.00%	5.50%	8.16%	8.67%	9.68%
Spire, Inc.	SR	\$2.74	\$69.28	3.95%	4.08%	9.00%	4.30%	5.00%	6.10%	8.34%	10.18%	13.13%
PROXY GROUP MEAN				3.34%	3.44%	7.33%	5.74%	5.80%	6.29%	8.95%	9.74%	11.00%

Notes

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals 180-day average as of July 29, 2022

[3] Equals [1] / [2]

[4] Equals [3] x (1 + 0.50 x [8])

[5] Source: Value Line

[6] Source: Yahoo! Finance

[7] Source: Zacks

[8] Equals Average ([5], [6], [7])

[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7]))

[10] Equals [4] + [8]

[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7]))

Rebuttal Exhibit JMC-3.1

Market Risk Premium

MARKET RISK PREMIUM DERIVED FROM S&P EARNINGS AND ESTIMATE REPORT

[1] S&P's estimate of the S&P 500 Dividend Yield	1.59%
[2] S&P's estimate of the S&P 500 Growth Rate	13.63%
[3] S&P 500 Estimated Required Market Return	15.32%

Notes:

[1] Source: S&P Dow Jones Indices, S&P 500 Earnings and Estimate Report, August 4, 2022

[2] Source: S&P Dow Jones Indices, S&P 500 Earnings and Estimate Report, August 4, 2022

[3] Equals $([1] \times (1 + (0.5 \times [2]))) + [2]$

MARKET RISK PREMIUM CALCULATION USING CAP. WEIGHTED BLOOMBERG GROWTH RATES

[4] Cap. Weighted Estimate of the S&P 500 Dividend Yield	1.59%
[5] Cap. Weighted Estimate of the S&P 500 Growth Rate	11.61%
[6] Cap. Weighted S&P 500 Estimated Required Market Return	13.30%

Notes:

- [4] Source: Bloomberg Professional, as of July 29, 2022
- [5] Source: Bloomberg Professional, as of July 29, 2022
- [6] Equals $([4] \times (1 + (0.5 \times [5]))) + [5]$

Name	Ticker	Shares Out/g	Price	Dividend Yield	Bloomberg Long-Term Growth Estimate	Market Cap Excl. n/a	% of Total Market Cap.	Cap. Weighted Div. Yield	Cap. Weighted Long-Term Growth
LyondellBasell Industries NV	LYB	326.21	89.12	5.34	25.00	29,071.48	0.08%	0.44%	2.05%
Signature Bank/New York NY	SBNY	62.93	185.57	1.21	12.25	11,677.73	0.03%	0.04%	0.40%
American Express Co	AXP	749.75	154.02	1.35	20.18	115,476.19	0.33%	0.44%	6.57%
Verizon Communications Inc	VZ	4199.72	46.19	5.54	1.29	193,984.84	0.55%	3.03%	0.71%
Broadcom Inc	AVGO	403.82	535.48	3.06	14.76	216,236.46	0.61%	1.87%	9.00%
Boeing Co/The	BA	593.81	159.31	n/a	-18.62	94,600.03	0.27%		-4.97%
Caterpillar Inc	CAT	533.37	198.25	2.42	11.40	105,741.40	0.30%	0.72%	3.40%
JPMorgan Chase & Co	JPM	2937.05	115.36	3.47	-1.65	338,818.09	0.96%	3.31%	-1.58%
Chevron Corp	CVX	1964.81	163.78	3.47	12.76	321,797.07	0.91%	3.15%	11.58%
Coca-Cola Co/The	KO	4324.63	64.17	2.74	6.71	277,511.44	0.78%	2.15%	5.25%
AbbVie Inc	ABBV	1767.11	143.51	3.93	-2.63	253,597.96	0.72%	2.81%	-1.88%
Walt Disney Co/The	DIS	1821.48	106.10	n/a	37.10	193,259.45	0.54%		20.22%
FleetCor Technologies Inc	FLT	77.34	220.09	n/a	16.18	17,021.98	0.05%		0.78%
Extra Space Storage Inc	EXR	134.28	189.52	3.17	6.61	25,448.75	0.07%	0.23%	0.47%
Exxon Mobil Corp	XOM	4212.54	96.93	3.63	20.76	408,321.79	1.15%	4.18%	23.90%
Phillips 66	PSX	481.05	89.00	4.36	15.06	42,813.54	0.12%	0.53%	1.82%
General Electric Co	GE	1096.55	73.91	0.43	18.97	81,046.23	0.23%	0.10%	4.33%
HP Inc	HPQ	1034.14	33.39	2.99	1.70	34,529.87	0.10%	0.29%	0.17%
Home Depot Inc/The	HD	1027.76	300.94	2.53	5.54	309,292.59	0.87%	2.20%	4.83%
Monolithic Power Systems Inc	MPWR	46.64	464.72	0.65	25.50	21,675.93	0.06%	0.04%	1.56%
International Business Machines Corp	IBM	903.18	130.79	5.05	8.49	118,126.91	0.33%	1.68%	2.83%
Johnson & Johnson	JNJ	2629.18	174.52	2.59	4.12	458,844.49	1.29%	3.35%	5.33%
McDonald's Corp	MCD	739.55	263.37	2.10	7.47	194,774.49	0.55%	1.15%	4.10%
Merck & Co Inc	MRK	2528.81	89.34	3.09	12.28	225,923.44	0.64%	1.97%	7.82%
3M Co	MMM	569.60	143.24	4.16	6.93	81,590.08	0.23%	0.96%	1.60%
American Water Works Co Inc	AWK	181.79	155.44	1.69	7.55	28,256.82	0.08%	0.13%	0.60%
Bank of America Corp	BAC	8035.24	33.81	2.60	6.00	271,671.43	0.77%	1.99%	4.60%
Pfizer Inc	PFE	5610.90	50.51	3.17	-2.20	283,406.36	0.80%	2.53%	-1.75%
Procter & Gamble Co/The	PG	2399.30	138.91	2.63	4.71	333,286.35	0.94%	2.47%	4.43%
AT&T Inc	T	7126.00	18.78	5.91	1.20	133,826.28	0.38%	2.23%	0.45%
Travelers Cos Inc/The	TRV	237.31	158.70	2.34	5.02	37,661.57	0.11%	0.25%	0.53%
Raytheon Technologies Corp	RTX	1476.51	93.21	2.36	11.32	137,625.87	0.39%	0.92%	4.39%
Analog Devices Inc	ADI	519.81	171.96	1.77	10.00	89,385.84	0.25%	0.45%	5.52%
Walmart Inc	WMT	2741.15	132.05	1.70	6.97	361,968.86	1.02%	1.73%	7.11%
Cisco Systems Inc	CSCO	4140.96	45.37	3.35	7.07	187,875.54	0.53%	1.77%	3.74%
Intel Corp	INTC	4106.00	36.31	4.02	4.38	149,088.86	0.42%	1.69%	1.84%
General Motors Co	GM	1458.05	36.26	n/a	11.94	52,868.86	0.15%		1.78%
Microsoft Corp	MSFT	7457.89	280.74	0.88	13.89	2,093,728.60	5.90%	5.22%	82.00%
Dollar General Corp	DG	227.00	248.43	0.89	13.16	56,392.86	0.16%	0.14%	2.09%
Cigna Corp	CI	317.27	275.36	1.63	10.95	87,364.29	0.25%	0.40%	2.70%
Kinder Morgan Inc	KMI	2253.00	17.99	6.17	0.85	40,531.49	0.11%	0.71%	0.10%
Citigroup Inc	C	1937.00	51.90	3.93	-7.63	100,530.30	0.28%	1.11%	-2.16%
American International Group Inc	AIG	792.19	51.77	2.47	-5.10	41,011.78	0.12%	0.29%	-0.59%
Altria Group Inc	MO	1800.82	43.86	8.21	1.15	78,984.10	0.22%	1.83%	0.26%
HCA Healthcare Inc	HCA	295.48	212.42	1.05	7.71	62,766.71	0.18%	0.19%	1.37%
International Paper Co	IP	362.02	42.77	4.33	11.90	15,483.47	0.04%	0.19%	0.52%
Hewlett Packard Enterprise Co	HPE	1299.33	14.24	3.37	3.13	18,502.46	0.05%	0.18%	0.16%
Abbott Laboratories	ABT	1750.94	108.84	1.73	4.17	190,572.53	0.54%	0.93%	2.24%
Aflac Inc	AFL	644.17	57.30	2.79	n/a	0.00	0.00%	0.00%	
Air Products and Chemicals Inc	APD	221.77	248.23	2.61	13.50	55,050.71	0.16%	0.41%	2.10%
Royal Caribbean Cruises Ltd	RCL	255.06	38.71	n/a	-164.40	9,873.33	0.03%		-4.58%
Hess Corp	HES	311.26	112.47	1.33	18.71	35,007.75	0.10%	0.13%	1.85%
Archer-Daniels-Midland Co	ADM	560.56	82.77	1.93	6.96	46,397.72	0.13%	0.25%	0.91%
Automatic Data Processing Inc	ADP	416.10	241.12	1.73	13.20	100,330.03	0.28%	0.49%	3.73%
Verisk Analytics Inc	VRSK	157.90	190.25	0.65	9.49	30,040.86	0.08%	0.06%	0.80%
AutoZone Inc	AZO	19.49	2137.39	n/a	12.40	41,653.46	0.12%		1.46%
Avery Dennison Corp	AVY	81.71	190.46	1.58	7.20	15,563.25	0.04%	0.07%	0.32%
Enphase Energy Inc	ENPH	135.46	284.18	n/a	42.53	38,494.17	0.11%		4.62%
MSCI Inc	MSCI	80.50	481.34	1.04	12.60	38,749.31	0.11%	0.11%	1.38%
Ball Corp	BALL	319.79	73.42	1.09	6.35	23,478.91	0.07%	0.07%	0.42%
Ceridian HCM Holding Inc	CDAY	152.65	54.77	n/a	58.80	8,360.37	0.02%		1.39%
Carrier Global Corp	CARR	841.58	40.53	1.48	8.33	34,109.36	0.10%	0.14%	0.80%

Name	Ticker	Shares	Outst'g	Price	Dividend Yield	Bloomberg Long-Term Growth Estimate	Market Cap Excl. n/a Growth	% of Total Market Cap.	Cap. Weighted Div. Yield	Cap. Weighted Long-Term Growth
Bank of New York Mellon Corp/The	BK	808.10	43.46	3.41	6.55	35,120.16	0.10%	0.34%	0.65%	
Otis Worldwide Corp	OTIS	420.23	78.17	1.48	8.77	32,849.54	0.09%	0.14%	0.81%	
Baxter International Inc	BAX	503.61	58.66	1.98	8.86	29,541.82	0.08%	0.16%	0.74%	
Becton Dickinson and Co	BDX	285.07	244.31	1.42	6.45	69,644.23	0.20%	0.28%	1.27%	
Berkshire Hathaway Inc	BRK/B	1285.75	300.60	n/a	n/a	0.00	0.00%			
Best Buy Co Inc	BBY	225.17	76.99	4.57	9.16	17,335.68	0.05%	0.22%	0.45%	
Boston Scientific Corp	BSX	1429.57	41.05	n/a	9.81	58,683.89	0.17%		1.62%	
Bristol-Myers Squibb Co	BMY	2135.26	73.78	2.93	5.90	157,539.11	0.44%	1.30%	2.62%	
Fortune Brands Home & Security Inc	FBHS	129.32	69.68	1.61	8.52	9,010.81	0.03%	0.04%	0.22%	
Brown-Forman Corp	BF/B	309.90	74.22	1.02	12.30	23,000.78	0.06%	0.07%	0.80%	
Coterra Energy Inc	CTRA	805.81	30.59	1.96	19.38	24,649.57	0.07%	0.14%	1.35%	
Campbell Soup Co	CPB	300.58	49.35	3.00	2.46	14,833.43	0.04%	0.13%	0.10%	
Hilton Worldwide Holdings Inc	HLT	274.29	128.07	0.47	43.56	35,127.94	0.10%	0.05%	4.31%	
Carnival Corp	CCL	1096.76	9.06	n/a	-4.47	9,936.61	0.03%		-0.13%	
Qorvo Inc	QRVO	103.73	104.07	n/a	6.91	10,794.87	0.03%		0.21%	
Lumen Technologies Inc	LUMN	1033.06	10.89	9.18	-6.00	11,249.97	0.03%	0.29%	-0.19%	
UDR Inc	UDR	324.92	48.40	3.14	9.05	15,726.27	0.04%	0.14%	0.40%	
Clorox Co/The	CLX	123.08	141.84	3.33	-5.00	17,457.67	0.05%	0.16%	-0.25%	
Paycom Software Inc	PAYC	60.25	330.49	n/a	25.95	19,913.34	0.06%		1.46%	
CMS Energy Corp	CMS	290.20	68.73	2.68	7.73	19,945.17	0.06%	0.15%	0.43%	
Newell Brands Inc	NWL	413.50	20.21	4.55	n/a	0.00	0.00%	0.00%		
Colgate-Palmolive Co	CL	834.12	78.74	2.39	4.78	65,678.61	0.19%	0.44%	0.89%	
EPAM Systems Inc	EPAM	57.15	349.25	n/a	17.20	19,959.99	0.06%		0.97%	
Comerica Inc	CMA	130.82	77.77	3.50	18.04	10,173.87	0.03%	0.10%	0.52%	
Conagra Brands Inc	CAG	480.09	34.21	3.86	7.15	16,423.95	0.05%	0.18%	0.33%	
Consolidated Edison Inc	ED	354.30	99.27	3.18	5.00	35,170.86	0.10%	0.32%	0.50%	
Corning Inc	GLW	845.32	36.76	2.94	6.49	31,073.89	0.09%	0.26%	0.57%	
Cummins Inc	CM	141.10	221.31	2.84	8.47	31,226.40	0.09%	0.25%	0.75%	
Caesars Entertainment Inc	CZR	214.37	45.69	n/a	n/a	0.00	0.00%			
Danaher Corp	DHR	727.45	291.47	0.34	18.19	212,028.39	0.60%	0.21%	10.87%	
Target Corp	TGT	463.70	163.38	2.64	12.24	75,758.65	0.21%	0.56%	2.61%	
Deere & Co	DE	305.64	343.18	1.32	13.97	104,888.16	0.30%	0.39%	4.13%	
Dominion Energy Inc	D	811.27	81.98	3.26	6.67	66,507.91	0.19%	0.61%	1.25%	
Dover Corp	DOV	143.55	133.68	1.50	11.50	19,189.63	0.05%	0.08%	0.62%	
Alliant Energy Corp	LNT	250.81	60.93	2.81	5.71	15,282.10	0.04%	0.12%	0.25%	
Duke Energy Corp	DUK	770.00	109.93	3.66	5.36	84,646.10	0.24%	0.87%	1.28%	
Regency Centers Corp	REG	172.36	64.43	3.88	4.35	11,105.28	0.03%	0.12%	0.14%	
Eaton Corp PLC	ETN	399.00	148.39	2.18	11.13	59,207.61	0.17%	0.36%	1.86%	
Ecolab Inc	ECL	285.66	165.17	1.24	15.07	47,181.64	0.13%	0.16%	2.00%	
PerkinElmer Inc	PKI	128.15	153.17	0.18	25.28	19,322.09	0.05%	0.01%	1.38%	
Emerson Electric Co	EMR	594.00	90.07	2.29	10.97	53,501.58	0.15%	0.35%	1.65%	
EOG Resources Inc	EOG	585.71	111.22	2.70	11.82	65,143.00	0.18%	0.50%	2.17%	
Aon PLC	AON	210.93	291.04	0.77	11.55	61,387.90	0.17%	0.13%	2.00%	
Entergy Corp	ETR	203.37	115.13	3.51	6.41	23,414.45	0.07%	0.23%	0.42%	
Equifax Inc	EFX	122.40	208.91	0.75	13.34	25,570.58	0.07%	0.05%	0.96%	
IQVIA Holdings Inc	IQV	186.51	240.27	n/a	17.26	44,812.28	0.13%		2.18%	
Gartner Inc	IT	80.54	265.48	n/a	11.00	21,381.49	0.06%		0.66%	
FedEx Corp	FDX	259.85	233.09	1.97	12.43	60,567.50	0.17%	0.34%	2.12%	
FMC Corp	FMC	125.94	111.10	1.91	9.00	13,991.82	0.04%	0.08%	0.36%	
Brown & Brown Inc	BRO	282.45	65.10	0.63	n/a	0.00	0.00%	0.00%		
Ford Motor Co	F	3949.39	14.69	4.08	29.20	58,016.47	0.16%	0.67%	4.78%	
NextEra Energy Inc	NEE	1964.78	84.49	2.01	10.78	166,004.18	0.47%	0.94%	5.05%	
Franklin Resources Inc	BEN	498.36	27.45	4.23	n/a	0.00	0.00%	0.00%		
Garmin Ltd	GRMN	192.86	97.62	2.99	9.00	18,826.51	0.05%	0.16%	0.48%	
Freeport-McMoRan Inc	FCX	1449.26	31.55	1.90	-12.34	45,724.22	0.13%	0.25%	-1.59%	
Dexcom Inc	DXCM	392.58	82.08	n/a	20.87	32,223.13	0.09%		1.90%	
General Dynamics Corp	GD	274.25	226.67	2.22	10.23	62,163.34	0.18%	0.39%	1.79%	
General Mills Inc	GIS	597.16	74.79	2.89	6.70	44,661.45	0.13%	0.36%	0.84%	
Genuine Parts Co	GPC	141.43	152.87	2.34	10.26	21,620.56	0.06%	0.14%	0.63%	
Atmos Energy Corp	ATO	139.02	121.39	2.24	7.87	16,875.03	0.05%	0.11%	0.37%	
WW Grainger Inc	GWV	50.87	543.53	1.27	12.05	27,649.91	0.08%	0.10%	0.94%	
Halliburton Co	HAL	906.94	29.30	1.64	50.21	26,573.46	0.07%	0.12%	3.76%	
L3Harris Technologies Inc	LHX	191.35	239.97	1.87	5.00	45,918.98	0.13%	0.24%	0.65%	
Healthpeak Properties Inc	PEAK	539.56	27.63	4.34	5.32	14,907.96	0.04%	0.18%	0.22%	
Catalent Inc	CTLT	179.21	113.10	n/a	15.83	20,268.99	0.06%		0.90%	
Fortive Corp	FTV	355.70	64.45	0.43	10.23	22,924.67	0.06%	0.03%	0.66%	
Hershey Co/The	HSY	146.87	227.96	1.82	10.00	33,480.49	0.09%	0.17%	0.94%	
Synchrony Financial	SYF	481.76	33.48	2.75	-8.80	16,129.29	0.05%	0.12%	-0.40%	
Hormel Foods Corp	HRL	546.06	49.34	2.11	6.37	26,942.40	0.08%	0.16%	0.48%	
Arthur J Gallagher & Co	AJG	210.30	178.99	1.14	12.50	37,771.60	0.11%	0.12%	1.33%	
Mondelez International Inc	MDLZ	1370.57	64.04	2.40	6.01	87,771.05	0.25%	0.60%	1.49%	
CenterPoint Energy Inc	CNP	629.43	31.69	2.27	4.97	19,946.70	0.06%	0.13%	0.28%	
Humana Inc	HUM	126.55	482.00	0.65	13.88	60,999.03	0.17%	0.11%	2.39%	
Willis Towers Watson PLC	WTW	109.97	206.94	1.59	-29.83	22,756.36	0.06%	0.10%	-1.91%	
Illinois Tool Works Inc	ITW	311.44	207.76	2.35	9.90	64,705.40	0.18%	0.43%	1.81%	
CDW Corp/DE	CDW	135.12	181.53	1.10	13.10	24,527.61	0.07%	0.08%	0.91%	
Trane Technologies PLC	TT	233.86	146.99	1.82	10.14	34,375.08	0.10%	0.18%	0.98%	
Interpublic Group of Cos Inc/The	IPG	391.03	29.87	3.88	1.93	11,680.01	0.03%	0.13%	0.06%	
International Flavors & Fragrances Inc	IFF	254.84	124.05	2.55	14.12	31,612.65	0.09%	0.23%	1.26%	
Jacobs Engineering Group Inc	J	128.63	137.30	0.67	12.89	17,660.49	0.05%	0.03%	0.64%	
Generac Holdings Inc	GNRC	63.83	268.30	n/a	12.50	17,125.59	0.05%		0.60%	
NXP Semiconductors NV	NXPI	262.60	183.88	1.84	19.20	48,286.52	0.14%	0.25%	2.61%	

Name	Ticker	Shares	Outst'g	Price	Dividend Yield	Bloomberg Long-Term Growth Estimate	Market Cap Excl. n/a Growth	% of Total Market Cap.	Cap. Weighted Div. Yield	Cap. Weighted Long-Term Growth
Kellogg Co	K	337.87	73.92	3.19	3.59	24,975.57	0.07%	0.22%	0.25%	
Broadridge Financial Solutions Inc	BR	117.23	160.55	1.59	12.10	18,820.79	0.05%	0.08%	0.64%	
Kimberly-Clark Corp	KMB	337.62	131.79	3.52	7.63	44,495.20	0.13%	0.44%	0.96%	
Kimco Realty Corp	KIM	618.48	22.11	3.98	3.91	13,674.64	0.04%	0.15%	0.15%	
Oracle Corp	ORCL	2664.93	77.84	1.64	13.15	207,437.84	0.58%	0.96%	7.69%	
Kroger Co/The	KR	715.56	46.44	2.24	8.94	33,230.61	0.09%	0.21%	0.84%	
Lennar Corp	LEN	254.99	85.00	1.76	2.39	21,673.90	0.06%	0.11%	0.15%	
Eli Lilly & Co	LLY	950.16	329.69	1.19	16.28	313,258.25	0.88%	1.05%	14.38%	
Bath & Body Works Inc	BBWI	228.74	35.54	2.25	3.93	8,129.28	0.02%	0.05%	0.09%	
Charter Communications Inc	CHTR	160.66	432.10	n/a	30.39	69,419.03	0.20%		5.95%	
Lincoln National Corp	LNC	171.95	51.34	3.51	15.98	8,827.76	0.02%	0.09%	0.40%	
Loews Corp	L	246.11	58.25	0.43	n/a	0.00	0.00%	0.00%		
Lowe's Cos Inc	LOW	639.13	191.53	2.19	10.37	122,412.38	0.35%	0.76%	3.58%	
IDEX Corp	IEX	75.48	208.75	1.15	13.93	15,755.62	0.04%	0.05%	0.62%	
Marsh & McLennan Cos Inc	MMC	499.02	163.96	1.44	7.51	81,818.99	0.23%	0.33%	1.73%	
Masco Corp	MAS	225.52	55.38	2.02	11.63	12,489.30	0.04%	0.07%	0.41%	
S&P Global Inc	SPGI	339.90	376.93	0.90	17.30	128,118.51	0.36%	0.33%	6.25%	
Medtronic PLC	MDT	1328.71	92.52	2.94	7.54	122,932.16	0.35%	1.02%	2.61%	
Viatis Inc	VTRS	1212.33	9.69	4.95	0.13	11,747.45	0.03%	0.16%	0.00%	
CVS Health Corp	CVS	1311.31	95.68	2.30	7.24	125,466.05	0.35%	0.81%	2.56%	
DuPont de Nemours Inc	DD	508.53	61.23	2.16	7.82	31,137.11	0.09%	0.19%	0.69%	
Micron Technology Inc	MU	1103.15	61.86	0.74	13.75	68,240.55	0.19%	0.14%	2.65%	
Motorola Solutions Inc	MSI	167.30	238.59	1.32	11.10	39,915.39	0.11%	0.15%	1.25%	
Cboe Global Markets Inc	CBOE	106.06	123.38	1.56	n/a	0.00	0.00%	0.00%		
Laboratory Corp of America Holdings	LH	93.18	262.19	1.10	-1.70	24,429.82	0.07%	0.08%	-0.12%	
Newmont Corp	NEM	793.68	45.28	4.86	-3.00	35,937.83	0.10%	0.49%	-0.30%	
NIKE Inc	NKE	1263.65	114.92	1.06	11.14	145,219.00	0.41%	0.43%	4.56%	
NiSource Inc	NI	405.80	30.40	3.09	7.28	12,336.26	0.03%	0.11%	0.25%	
Norfolk Southern Corp	NSC	234.87	251.17	1.97	9.18	58,993.30	0.17%	0.33%	1.53%	
Principal Financial Group Inc	PFJ	252.68	66.94	3.82	4.61	16,914.67	0.05%	0.18%	0.22%	
Eversource Energy	ES	344.88	88.22	2.89	6.43	30,425.14	0.09%	0.25%	0.55%	
Northrop Grumman Corp	NOC	154.71	478.90	1.44	0.56	74,091.10	0.21%	0.30%	0.12%	
Wells Fargo & Co	WFC	3790.35	43.87	2.74	5.66	166,282.74	0.47%	1.28%	2.65%	
Nucor Corp	NUE	266.00	135.80	1.47	n/a	0.00	0.00%	0.00%		
PVH Corp	PVH	66.96	61.92	0.24	6.92	4,146.23	0.01%	0.00%	0.08%	
Occidental Petroleum Corp	OXY	937.19	65.75	0.79	-3.05	61,620.31	0.17%	0.14%	-0.53%	
Omnicom Group Inc	OMC	204.84	69.84	4.01	2.41	14,306.24	0.04%	0.16%	0.10%	
ONEOK Inc	OKE	446.62	59.74	6.26	9.35	26,680.84	0.08%	0.47%	0.70%	
Raymond James Financial Inc	RJF	215.50	98.47	1.38	10.30	21,220.29	0.06%	0.08%	0.62%	
Parker-Hannifin Corp	PH	128.37	289.09	1.84	12.95	37,111.06	0.10%	0.19%	1.36%	
Rollins Inc	ROL	492.42	38.57	1.04	10.30	18,992.52	0.05%	0.06%	0.55%	
PPL Corp	PPL	735.90	29.08	3.09	12.23	21,400.06	0.06%	0.19%	0.74%	
ConocoPhillips	COP	1293.45	97.43	1.89	6.50	126,020.83	0.36%	0.67%	2.31%	
PulteGroup Inc	PHM	231.50	43.62	1.38	0.05	10,097.94	0.03%	0.04%	0.00%	
Pinnacle West Capital Corp	PNW	113.00	73.47	4.63	-3.33	8,302.18	0.02%	0.11%	-0.08%	
PNC Financial Services Group Inc/The	PNC	413.58	165.94	3.62	13.25	68,629.63	0.19%	0.70%	2.56%	
PPG Industries Inc	PPG	235.00	129.29	1.92	9.54	30,382.76	0.09%	0.16%	0.82%	
Progressive Corp/The	PGR	584.90	115.06	0.35	24.65	67,298.59	0.19%	0.07%	4.68%	
Public Service Enterprise Group Inc	PEG	499.26	65.67	3.29	5.01	32,786.34	0.09%	0.30%	0.46%	
Robert Half International Inc	RHI	110.51	79.14	2.17	-2.03	8,746.08	0.02%	0.05%	-0.05%	
Edison International	EIX	381.43	67.77	4.13	3.71	25,849.65	0.07%	0.30%	0.27%	
Schlumberger NV	SLB	1414.39	37.03	1.89	26.40	52,374.79	0.15%	0.28%	3.90%	
Charles Schwab Corp/The	SCHW	1817.06	69.05	1.27	20.23	125,467.79	0.35%	0.45%	7.16%	
Sherwin-Williams Co/The	SHW	259.18	241.94	0.99	11.33	62,706.74	0.18%	0.18%	2.00%	
West Pharmaceutical Services Inc	WST	74.05	343.56	0.21	27.22	25,439.93	0.07%	0.02%	1.95%	
J M Smucker Co/The	SJM	106.56	132.32	3.08	3.28	14,099.75	0.04%	0.12%	0.13%	
Snap-on Inc	SNA	53.27	224.05	2.54	6.64	11,934.70	0.03%	0.09%	0.22%	
AMETEK Inc	AME	230.91	123.50	0.71	11.46	28,517.39	0.08%	0.06%	0.92%	
Southern Co/The	SO	1062.53	76.89	3.54	4.05	81,697.55	0.23%	0.81%	0.93%	
Truist Financial Corp	TFC	1331.41	50.47	4.12	8.63	67,196.46	0.19%	0.78%	1.64%	
Southwest Airlines Co	LUV	592.96	38.12	n/a	70.84	22,603.48	0.06%		4.51%	
W R Berkley Corp	WRB	265.27	62.53	0.64	8.90	16,587.52	0.05%	0.03%	0.42%	
Stanley Black & Decker Inc	SWK	147.82	97.33	3.29	-9.00	14,386.93	0.04%	0.13%	-0.37%	
Public Storage	PSA	175.53	326.41	2.45	8.56	57,294.42	0.16%	0.40%	1.38%	
Arista Networks Inc	ANET	308.26	116.63	n/a	16.31	35,952.83	0.10%		1.65%	
Sysco Corp	SY	509.48	84.90	2.31	14.95	43,254.51	0.12%	0.28%	1.82%	
Corteva Inc	CTVA	725.32	57.55	1.04	11.72	41,742.17	0.12%	0.12%	1.38%	
Texas Instruments Inc	TXN	913.71	178.89	2.57	8.25	163,453.05	0.46%	1.19%	3.80%	
Textron Inc	TXT	211.53	65.64	0.12	14.76	13,884.96	0.04%	0.00%	0.58%	
Thermo Fisher Scientific Inc	TMO	391.46	598.41	0.20	9.40	234,254.78	0.66%	0.13%	6.21%	
TJX Cos Inc/The	TJX	1171.64	61.16	1.93	11.05	71,657.26	0.20%	0.39%	2.23%	
Globe Life Inc	GL	98.60	100.73	0.82	n/a	0.00	0.00%	0.00%		
Johnson Controls International plc	JCI	695.67	53.91	2.60	16.87	37,503.52	0.11%	0.27%	1.78%	
Ulta Beauty Inc	ULTA	51.82	388.91	n/a	28.51	20,152.54	0.06%		1.62%	
Union Pacific Corp	UNP	624.48	227.30	2.29	10.45	141,944.08	0.40%	0.92%	4.18%	
Keysight Technologies Inc	KEYS	179.95	162.60	n/a	10.37	29,259.22	0.08%		0.86%	
UnitedHealth Group Inc	UNH	938.17	542.34	1.22	12.39	508,808.20	1.43%	1.75%	17.78%	
Marathon Oil Corp	MRO	707.69	24.80	1.29	-6.90	17,550.74	0.05%	0.06%	-0.34%	
Bio-Rad Laboratories Inc	BIO	24.63	563.26	n/a	8.40	13,875.35	0.04%		0.33%	
Ventas Inc	VTR	399.70	53.78	3.35	7.42	21,495.65	0.06%	0.20%	0.45%	
VF Corp	VFC	388.48	44.68	4.48	1.34	17,357.29	0.05%	0.22%	0.07%	
Vornado Realty Trust	VNO	191.74	30.39	6.98	-22.88	5,827.07	0.02%	0.11%	-0.38%	

Name	Ticker	Shares	Outst'g	Price	Dividend Yield	Bloomberg Long-Term Growth Estimate	Market Cap Excl. n/a Growth	% of Total Market Cap.	Cap. Weighted Div. Yield	Cap. Weighted Long-Term Growth
Vulcan Materials Co	VMC	132.90	165.33	0.97	15.51	21,971.70	0.06%	0.06%	0.96%	
Weyerhaeuser Co	WY	744.50	36.32	1.98	n/a	0.00	0.00%	0.00%		
Whirlpool Corp	WHR	54.51	172.87	4.05	-0.54	9,422.80	0.03%	0.11%	-0.01%	
Williams Cos Inc/The	WMB	1218.01	34.09	4.99	6.40	41,522.03	0.12%	0.58%	0.75%	
Constellation Energy Corp	CEG	326.66	66.10	0.85	36.37	21,592.49	0.06%	0.05%	2.21%	
WEC Energy Group Inc	WEC	315.44	103.81	2.80	6.49	32,745.31	0.09%	0.26%	0.60%	
Adobe Inc	ADBE	468.00	410.12	n/a	14.53	191,936.16	0.54%		7.86%	
AES Corp/The	AES	667.86	22.22	2.84	7.44	14,839.85	0.04%	0.12%	0.31%	
Amgen Inc	AMGN	534.20	247.47	3.14	7.18	132,198.47	0.37%	1.17%	2.68%	
Apple Inc	AAPL	16070.75	162.51	0.57	10.90	2,611,657.91	7.36%	4.17%	80.27%	
Autodesk Inc	ADSK	217.27	216.32	n/a	24.34	47,000.28	0.13%		3.23%	
Cintas Corp	CTAS	101.19	425.49	1.08	9.66	43,054.48	0.12%	0.13%	1.17%	
Comcast Corp	CMCSA	4403.79	37.52	2.88	10.62	165,230.35	0.47%	1.34%	4.95%	
Molson Coors Beverage Co	TAP	200.53	59.75	2.54	3.95	11,981.49	0.03%	0.09%	0.13%	
KLA Corp	KLAC	149.24	383.54	1.10	10.83	57,237.59	0.16%	0.18%	1.75%	
Marriott International Inc/MD	MAR	327.30	158.82	0.76	34.36	51,981.47	0.15%	0.11%	5.04%	
McCormick & Co Inc/MD	MKC	250.47	87.35	1.69	3.93	21,878.73	0.06%	0.10%	0.24%	
PACCAR Inc	PCAR	347.70	91.52	1.49	11.05	31,821.50	0.09%	0.13%	0.99%	
Costco Wholesale Corp	COST	442.96	541.30	0.67	9.91	239,775.87	0.68%	0.45%	6.70%	
First Republic Bank/CA	FRC	179.68	162.71	0.66	7.38	29,236.38	0.08%	0.05%	0.61%	
Stryker Corp	SYK	378.32	214.75	1.29	9.14	81,244.43	0.23%	0.30%	2.09%	
Tyson Foods Inc	TSN	291.54	88.01	2.09	1.08	25,658.35	0.07%	0.15%	0.08%	
Lamb Weston Holdings Inc	LW	143.75	79.66	1.23	19.61	11,450.97	0.03%	0.04%	0.63%	
Applied Materials Inc	AMAT	869.95	105.98	0.98	8.05	92,196.98	0.26%	0.26%	2.09%	
American Airlines Group Inc	AAL	649.85	13.71	n/a	n/a	0.00	0.00%			
Cardinal Health Inc	CAH	272.43	59.56	3.33	10.29	16,225.75	0.05%	0.15%	0.47%	
Cincinnati Financial Corp	CINF	159.20	97.34	2.84	n/a	0.00	0.00%	0.00%		
Paramount Global	PARA	608.40	23.65	4.06	0.75	14,388.54	0.04%	0.16%	0.03%	
DR Horton Inc	DHI	347.48	78.03	1.15	11.08	27,113.94	0.08%	0.09%	0.85%	
Electronic Arts Inc	EA	273.31	131.23	0.58	15.95	36,653.33	0.10%	0.06%	1.65%	
Expeditions International of Washington Inc	EXPD	167.75	106.25	1.26	4.30	17,823.86	0.05%	0.06%	0.22%	
Fastenal Co	FAST	574.68	51.36	2.41	11.30	29,515.51	0.08%	0.20%	0.94%	
M&T Bank Corp	MTB	175.97	177.45	2.70	9.70	31,225.70	0.09%	0.24%	0.85%	
Xcel Energy Inc	XEL	546.99	73.18	2.66	6.68	40,028.80	0.11%	0.30%	0.75%	
Fiserv Inc	FISV	639.58	105.68	n/a	13.67	67,591.24	0.19%		2.61%	
Fifth Third Bancorp	FITB	686.15	34.12	3.52	13.85	23,411.51	0.07%	0.23%	0.91%	
Gilead Sciences Inc	GILD	1254.31	59.75	4.89	-2.86	74,945.20	0.21%	1.03%	-0.61%	
Hasbro Inc	HAS	138.09	78.72	3.56	7.10	10,870.52	0.03%	0.11%	0.22%	
Huntington Bancshares Inc/OH	HBAN	1442.19	13.29	4.67	6.62	19,166.76	0.05%	0.25%	0.36%	
Welltower Inc	WELL	453.97	86.34	2.83	26.35	39,195.60	0.11%	0.31%	2.91%	
Biogen Inc	BIIB	145.11	215.06	n/a	-3.90	31,208.00	0.09%		-0.34%	
Northern Trust Corp	NTRS	208.39	99.78	3.01	8.80	20,792.85	0.06%	0.18%	0.52%	
Packaging Corp of America	PKG	93.70	140.61	3.56	3.00	13,175.30	0.04%	0.13%	0.11%	
Paychex Inc	PAYX	359.91	128.28	2.46	8.00	46,168.87	0.13%	0.32%	1.04%	
QUALCOMM Inc	QCOM	1123.00	145.06	2.07	16.25	162,902.38	0.46%	0.95%	7.46%	
Roper Technologies Inc	ROP	105.91	436.67	0.57	12.35	46,249.03	0.13%	0.07%	1.61%	
Ross Stores Inc	ROST	349.93	81.26	1.53	9.70	28,434.99	0.08%	0.12%	0.78%	
IDEXX Laboratories Inc	IDXX	84.01	399.18	n/a	9.49	33,533.91	0.09%		0.90%	
Starbucks Corp	SBUX	1146.90	84.78	2.31	10.75	97,234.18	0.27%	0.63%	2.95%	
KeyCorp	KEY	932.40	18.30	4.26	6.04	17,062.88	0.05%	0.21%	0.29%	
Fox Corp	FOXA	311.68	33.11	1.45	8.67	10,319.86	0.03%	0.04%	0.25%	
Fox Corp	FOX	245.07	30.90	1.55	8.67	7,572.51	0.02%	0.03%	0.19%	
State Street Corp	STT	367.62	71.04	3.55	9.19	26,115.65	0.07%	0.26%	0.68%	
Norwegian Cruise Line Holdings Ltd	NCLH	419.10	12.15	n/a	n/a	0.00	0.00%			
US Bancorp	USB	1486.00	47.20	3.90	2.40	70,139.20	0.20%	0.77%	0.47%	
A O Smith Corp	AOS	128.48	63.27	1.77	10.00	8,128.74	0.02%	0.04%	0.23%	
NortonLifeLock Inc	NLOK	571.37	24.53	2.04	5.90	14,015.68	0.04%	0.08%	0.23%	
T Rowe Price Group Inc	TROW	225.69	123.47	3.89	-6.68	27,866.19	0.08%	0.31%	-0.52%	
Waste Management Inc	WM	413.34	164.56	1.58	13.06	68,018.57	0.19%	0.30%	2.50%	
Constellation Brands Inc	STZ	159.34	246.31	1.30	9.46	39,245.80	0.11%	0.14%	1.05%	
DENTSPLY SIRONA Inc	XRAY	215.45	36.16	1.38	5.16	7,790.74	0.02%	0.03%	0.11%	
Zions Bancorp NA	ZION	150.47	54.55	3.01	2.12	8,208.19	0.02%	0.07%	0.05%	
Alaska Air Group Inc	ALK	126.76	44.33	n/a	71.60	5,619.27	0.02%		1.13%	
Invesco Ltd	IVZ	454.90	17.74	4.23	-6.07	8,069.93	0.02%	0.10%	-0.14%	
Linde PLC	LIN	498.37	302.00	1.55	12.20	150,506.53	0.42%	0.66%	5.18%	
Intuit Inc	INTU	282.08	456.17	0.60	20.40	128,675.07	0.36%	0.22%	7.40%	
Morgan Stanley	MS	1749.28	84.30	3.68	1.07	147,464.64	0.42%	1.53%	0.44%	
Microchip Technology Inc	MCHP	552.48	68.86	1.60	7.29	38,044.05	0.11%	0.17%	0.78%	
Chubb Ltd	CB	417.64	188.64	1.76	13.00	78,783.80	0.22%	0.39%	2.89%	
Hologic Inc	HOLX	249.65	71.38	n/a	1.35	17,820.23	0.05%	0.07%		
Citizens Financial Group Inc	CFG	495.45	37.97	4.42	-1.51	18,812.08	0.05%	0.23%	-0.08%	
O'Reilly Automotive Inc	ORLY	63.75	703.59	n/a	10.31	44,855.97	0.13%		1.30%	
Allstate Corp/The	ALL	274.98	116.97	2.91	2.32	32,164.76	0.09%	0.26%	0.21%	
Equity Residential	EQR	376.12	78.39	3.19	17.14	29,483.89	0.08%	0.27%	1.42%	
BorgWarner Inc	BWA	239.58	38.46	1.77	19.16	9,214.05	0.03%	0.05%	0.50%	
Keurig Dr Pepper Inc	KDP	1416.07	38.74	1.94	6.50	54,858.55	0.15%	0.30%	1.01%	
Organon & Co	OGN	253.64	31.72	3.53	-3.30	8,045.37	0.02%	0.08%	-0.07%	
Host Hotels & Resorts Inc	HST	714.78	17.81	1.35	n/a	0.00	0.00%	0.00%		
Incyte Corp	INCY	221.51	77.68	n/a	26.39	17,206.51	0.05%		1.28%	
Simon Property Group Inc	SPG	328.64	108.64	6.26	6.17	35,703.34	0.10%	0.63%	0.62%	
Eastman Chemical Co	EMN	128.95	95.93	3.17	10.69	12,370.17	0.03%	0.11%	0.37%	
Twitter Inc	TWTR	765.25	41.61	n/a	n/a	0.00	0.00%			

Name	Ticker	Shares	Outst'g	Price	Dividend Yield	Bloomberg Long-Term Growth Estimate	Market Cap Excl. n/a Growth	% of Total Market Cap	Cap. Weighted Div. Yield	Cap. Weighted Long-Term Growth
AvalonBay Communities Inc	AVB	139.82		213.94	2.97	14.14	29,912.66	0.08%	0.25%	1.19%
Prudential Financial Inc	PRU	375.00		99.99	4.80	-1.48	37,496.25	0.11%	0.51%	-0.16%
United Parcel Service Inc	UPS	734.44		194.89	3.12	5.21	143,134.62	0.40%	1.26%	2.10%
Walgreens Boots Alliance Inc	WBA	864.26		39.62	4.85	0.47	34,241.86	0.10%	0.47%	0.05%
STERIS PLC	STE	100.08		225.65	0.83	5.10	22,583.05	0.06%	0.05%	0.32%
McKesson Corp	MCK	143.58		341.58	0.63	7.07	49,044.40	0.14%	0.09%	0.98%
Lockheed Martin Corp	LMT	265.15		413.81	2.71	5.90	109,722.55	0.31%	0.84%	1.82%
AmerisourceBergen Corp	ABC	209.46		145.93	1.26	8.57	30,567.08	0.09%	0.11%	0.74%
Capital One Financial Corp	COF	383.82		109.83	2.19	20.26	42,154.73	0.12%	0.26%	2.41%
Waters Corp	WAT	60.24		364.03	n/a	9.36	21,927.35	0.06%		0.58%
Nordson Corp	NDSN	57.51		230.99	0.88	12.27	13,284.70	0.04%	0.03%	0.46%
Dollar Tree Inc	DLTR	224.56		165.36	n/a	17.29	37,132.58	0.10%		1.81%
Darden Restaurants Inc	DRI	123.95		124.49	3.89	8.83	15,430.04	0.04%	0.17%	0.38%
Match Group Inc	MTCH	285.59		73.31	n/a	57.21	20,936.82	0.06%		3.38%
Domino's Pizza Inc	DPZ	35.89		392.11	1.12	10.60	14,070.87	0.04%	0.04%	0.42%
NVR Inc	NVR	3.28		4393.10	n/a	16.00	14,426.94	0.04%		0.65%
NetApp Inc	NTAP	219.74		71.33	2.80	8.79	15,673.70	0.04%	0.12%	0.39%
Citrix Systems Inc	CTXS	126.89		101.41	n/a	8.30	12,867.41	0.04%		0.30%
DXC Technology Co	DXC	229.66		31.60	n/a	20.37	7,257.10	0.02%		0.42%
Old Dominion Freight Line Inc	ODFL	113.35		303.51	0.40	13.35	34,404.07	0.10%	0.04%	1.30%
DaVita Inc	DVA	94.60		84.16	n/a	10.43	7,961.54	0.02%		0.23%
Hartford Financial Services Group Inc/The	HIG	323.14		64.47	2.39	7.00	20,832.96	0.06%	0.14%	0.41%
Iron Mountain Inc	IRM	290.56		48.49	5.10	n/a	0.00	0.00%	0.00%	
Estee Lauder Cos Inc/The	EL	231.81		273.10	0.88	11.50	63,305.95	0.18%	0.16%	2.05%
Cadence Design Systems Inc	CDNS	273.87		186.08	n/a	17.22	50,961.73	0.14%		2.47%
Tyler Technologies Inc	TYL	41.58		399.00	n/a	14.80	16,590.82	0.05%		0.69%
Universal Health Services Inc	UHS	67.13		112.47	0.71	5.15	7,549.89	0.02%	0.02%	0.11%
Skyworks Solutions Inc	SWKS	160.93		108.88	2.06	7.77	17,521.62	0.05%	0.10%	0.38%
Quest Diagnostics Inc	DGX	116.61		136.57	1.93	-8.99	15,924.88	0.04%	0.09%	-0.40%
Activision Blizzard Inc	ATVI	781.88		79.95	0.59	8.57	62,511.39	0.18%	0.10%	1.51%
Rockwell Automation Inc	ROK	115.44		255.28	1.75	9.95	29,468.25	0.08%	0.15%	0.83%
Kraft Heinz Co/The	KHC	1225.44		36.83	4.34	3.74	45,132.96	0.13%	0.55%	0.48%
American Tower Corp	AMT	465.59		270.83	2.11	10.59	126,094.93	0.36%	0.75%	3.76%
Regeneron Pharmaceuticals Inc	REGN	108.03		581.69	n/a	-2.94	62,838.81	0.18%		-0.52%
Amazon.com Inc	AMZN	10187.56		134.95	n/a	21.54	1,374,810.55	3.88%		83.52%
Jack Henry & Associates Inc	JKHY	72.86		207.77	0.94	11.15	15,138.54	0.04%	0.04%	0.48%
Ralph Lauren Corp	RL	44.83		98.63	3.04	4.77	4,421.39	0.01%	0.04%	0.06%
Boston Properties Inc	BXP	156.73		91.16	4.30	-1.52	14,287.14	0.04%	0.17%	-0.06%
Amphenol Corp	APH	594.83		77.13	1.04	10.31	45,879.08	0.13%	0.13%	1.33%
Howmet Aerospace Inc	HWM	417.91		37.13	0.22	32.00	15,517.15	0.04%	0.01%	1.40%
Pioneer Natural Resources Co	PXD	241.96		236.95	12.46	1.40	57,332.19	0.16%	2.01%	0.23%
Valero Energy Corp	VLO	393.97		110.77	3.54	19.64	43,640.06	0.12%	0.44%	2.42%
Synopsys Inc	SNPS	152.97		367.50	n/a	18.62	56,216.48	0.16%		2.95%
Etsy Inc	ETSY	126.61		103.72	n/a	20.10	13,131.89	0.04%		0.74%
CH Robinson Worldwide Inc	CHRW	123.88		110.70	1.99	9.30	13,713.85	0.04%	0.08%	0.36%
Accenture PLC	ACN	664.19		306.26	1.27	10.90	203,414.22	0.57%	0.73%	6.25%
TransDigm Group Inc	TDG	54.61		622.34	n/a	25.31	33,983.50	0.10%		2.43%
Yum! Brands Inc	YUM	285.16		122.54	1.86	10.02	34,944.00	0.10%	0.18%	0.99%
Prologis Inc	PLD	739.75		132.56	2.38	11.90	98,060.60	0.28%	0.66%	3.29%
FirstEnergy Corp	FE	571.40		41.10	3.80	2.35	23,484.33	0.07%	0.25%	0.16%
VeriSign Inc	VRSN	107.28		189.16	n/a	8.60	20,293.65	0.06%		0.49%
Quanta Services Inc	PWR	143.71		138.73	0.20	14.00	19,936.75	0.06%	0.01%	0.79%
Henry Schein Inc	HSIC	138.05		78.83	n/a	6.95	10,882.56	0.03%		0.21%
Ameren Corp	AEE	258.09		93.12	2.53	7.70	24,033.53	0.07%	0.17%	0.52%
ANSYS Inc	ANSS	86.99		278.99	n/a	8.26	24,269.34	0.07%		0.56%
FactSet Research Systems Inc	FDS	37.98		429.68	0.83	11.25	16,319.25	0.05%	0.04%	0.52%
NVIDIA Corp	NVDA	2500.00		181.63	0.09	26.95	454,075.00	1.28%	0.11%	34.51%
Sealed Air Corp	SEE	146.08		61.12	1.31	7.41	8,928.65	0.03%	0.03%	0.19%
Cognizant Technology Solutions Corp	CTSH	517.79		67.96	1.59	9.18	35,188.67	0.10%	0.16%	0.91%
SVB Financial Group	SIVB	59.08		403.55	n/a	7.00	23,842.14	0.07%		0.47%
Intuitive Surgical Inc	ISRG	357.11		230.17	n/a	12.61	82,196.24	0.23%		2.92%
Take-Two Interactive Software Inc	TTWO	166.49		132.73	n/a	48.16	22,098.08	0.06%		3.00%
Republic Services Inc	RSG	315.89		138.66	1.43	8.59	43,801.45	0.12%	0.18%	1.06%
eBay Inc	EBAY	559.84		48.63	1.81	3.06	27,225.12	0.08%	0.14%	0.24%
Goldman Sachs Group Inc/The	GS	343.45		333.39	3.00	-3.85	114,501.80	0.32%	0.97%	-1.24%
SBA Communications Corp	SBAC	107.83		335.79	0.85	8.00	36,207.90	0.10%	0.09%	0.82%
Smpra Energy	SRE	314.31		165.80	2.76	5.71	52,111.77	0.15%	0.41%	0.84%
Moody's Corp	MCO	183.50		130.25	0.90	11.40	56,930.88	0.16%	0.14%	1.83%
ON Semiconductor Corp	ON	434.51		66.78	n/a	16.05	29,016.31	0.08%		1.31%
Booking Holdings Inc	BKNG	40.62		1935.69	n/a	28.35	78,633.53	0.22%		6.29%
F5 Inc	FFIV	59.56		167.36	n/a	4.69	9,967.29	0.03%		0.13%
Akamai Technologies Inc	AKAM	160.31		96.22	n/a	24.50	15,424.55	0.04%		1.07%
Charles River Laboratories International Inc	CRL	50.81		250.54	n/a	14.95	12,728.68	0.04%		0.54%
MarketAxess Holdings Inc	MKTX	37.64		270.78	1.03	14.00	10,192.16	0.03%	0.03%	0.40%
Devon Energy Corp	DVN	660.00		62.85	8.08	21.62	41,481.00	0.12%	0.95%	2.53%
Bio-Techne Corp	TECH	39.23		385.28	0.33	21.73	15,116.08	0.04%	0.01%	0.93%
Alphabet Inc	GOOGL	5996.00		116.32	n/a	13.36	697,454.72	1.97%		26.27%
Teleflex Inc	TFX	46.91		240.46	0.57	6.45	11,278.78	0.03%	0.02%	0.21%
Netflix Inc	NFLX	444.71		224.90	n/a	22.50	100,014.38	0.28%		6.35%
Allegion plc	ALLE	87.84		105.70	1.55	9.43	9,284.48	0.03%	0.04%	0.25%
Agilent Technologies Inc	A	298.71		134.10	0.63	11.65	40,056.74	0.11%	0.07%	1.32%
Warner Bros Discovery Inc	WBD	2426.84		15.00	n/a	4.41	36,402.66	0.10%		0.45%

Name	Ticker	Shares	Outst'g	Price	Dividend Yield	Bloomberg Long-Term Growth Estimate	Market Cap Excl. n/a Growth	% of Total Market Cap.	Cap. Weighted Div. Yield	Cap. Weighted Long-Term Growth
Elevance Health Inc	ELV	240.00		477.10	1.07	11.84	114,504.48	0.32%	0.35%	3.82%
Trimble Inc	TRMB	250.14		69.43	n/a	n/a	0.00	0.00%		
CME Group Inc	CME	359.42		199.48	2.01	6.20	71,696.70	0.20%	0.41%	1.25%
Juniper Networks Inc	JNPR	322.61		28.03	3.00	8.17	9,042.73	0.03%	0.08%	0.21%
BlackRock Inc	BLK	151.50		669.18	2.92	6.60	101,382.78	0.29%	0.83%	1.89%
DTE Energy Co	DTE	193.74		130.30	2.72	6.03	25,244.58	0.07%	0.19%	0.43%
Nasdaq Inc	NDAQ	164.68		180.90	0.44	8.00	29,790.25	0.08%	0.04%	0.67%
Celanese Corp	CE	108.35		117.51	2.31	8.66	12,732.09	0.04%	0.08%	0.31%
Philip Morris International Inc	PM	1550.16		97.15	5.15	4.34	150,598.34	0.42%	2.19%	1.84%
Salesforce Inc	CRM	995.00		184.02	n/a	22.85	183,099.90	0.52%		11.80%
Ingersoll Rand Inc	IR	405.93		49.80	0.16	14.85	20,215.31	0.06%	0.01%	0.85%
Huntington Ingalls Industries Inc	HII	40.05		216.84	2.18	25.25	8,683.79	0.02%	0.05%	0.62%
MetLife Inc	MET	813.21		63.25	3.16	2.26	51,435.28	0.15%	0.46%	0.33%
Tapestry Inc	TPR	251.80		33.63	2.97	14.13	8,468.10	0.02%	0.07%	0.34%
CSX Corp	CSX	2141.24		32.33	1.24	9.23	69,226.32	0.20%	0.24%	1.80%
Edwards Lifesciences Corp	EW	619.94		100.54	n/a	13.50	62,329.07	0.18%		2.37%
Ameriprise Financial Inc	AMP	109.90		269.92	1.85	8.40	29,665.29	0.08%	0.15%	0.70%
Zebra Technologies Corp	ZBRA	52.51		357.69	n/a	11.40	18,783.73	0.05%		0.60%
Zimmer Biomet Holdings Inc	ZBH	209.58		110.39	0.87	4.28	23,135.21	0.07%	0.06%	0.28%
CBRE Group Inc	CBRE	328.86		85.62	n/a	7.20	27,985.84	0.08%		0.57%
Camden Property Trust	CPT	106.53		141.10	2.66	8.99	15,031.10	0.04%	0.11%	0.38%
Mastercard Inc	MA	958.68		353.79	0.55	23.13	339,169.98	0.96%	0.53%	22.12%
CarMax Inc	KMX	159.17		99.54	n/a	13.20	15,843.38	0.04%		0.59%
Intercontinental Exchange Inc	ICE	558.27		101.99	1.49	2.40	56,937.55	0.16%	0.24%	0.38%
Fidelity National Information Services Inc	FIS	607.95		102.16	1.84	14.86	62,107.76	0.18%	0.32%	2.60%
Chipotle Mexican Grill Inc	CMG	27.77		1564.22	n/a	28.75	43,430.57	0.12%		3.52%
Wynn Resorts Ltd	WYNN	115.97		63.48	n/a	-165.68	7,361.46	0.02%		-3.44%
Live Nation Entertainment Inc	LYV	228.06		93.99	n/a	n/a	0.00	0.00%		
Assurant Inc	AIZ	54.09		175.78	1.55	17.31	9,507.06	0.03%	0.04%	0.46%
NRG Energy Inc	NRG	237.28		37.75	3.71	2.87	8,957.47	0.03%	0.09%	0.07%
Regions Financial Corp	RF	934.50		21.18	3.78	1.67	19,792.71	0.06%	0.21%	0.09%
Monster Beverage Corp	MNST	529.67		99.62	n/a	11.16	52,765.83	0.15%		1.66%
Mosaic Co/The	MOS	361.99		52.66	1.14	-16.13	19,062.55	0.05%	0.06%	-0.87%
Baker Hughes Co	BKR	1011.75		25.69	2.80	25.78	25,991.96	0.07%	0.21%	1.89%
Expedia Group Inc	EXPE	151.57		106.05	n/a	32.25	16,074.42	0.05%		1.46%
Everygy Inc	EVRG	229.48		68.26	3.35	4.42	15,664.17	0.04%	0.15%	0.20%
CF Industries Holdings Inc	CF	208.60		95.49	1.68	5.05	19,919.40	0.06%	0.09%	0.28%
Leidos Holdings Inc	LDOS	136.66		107.00	1.35	6.46	14,622.83	0.04%	0.06%	0.27%
APA Corp	APA	338.23		37.17	1.35	15.12	12,572.08	0.04%	0.05%	0.54%
Alphabet Inc	GOOG	6163.00		116.64	n/a	13.36	718,852.32	2.03%		27.08%
TE Connectivity Ltd	TEL	319.84		133.73	1.68	9.83	42,772.07	0.12%	0.20%	1.19%
Cooper Cos Inc/The	COO	49.34		327.00	0.02	8.50	16,132.87	0.05%	0.00%	0.39%
Discover Financial Services	DFS	273.17		101.00	2.38	24.69	27,590.27	0.08%	0.18%	1.92%
Visa Inc	V	1635.02		212.11	0.71	17.76	346,803.03	0.98%	0.69%	17.37%
Mid-America Apartment Communities Inc	MAA	115.44		185.73	2.69	n/a	0.00	0.00%	0.00%	
Xylem Inc/NY	XYL	180.09		92.03	1.30	13.70	16,573.96	0.05%	0.06%	0.64%
Marathon Petroleum Corp	MPC	541.00		91.66	2.53	25.88	49,587.60	0.14%	0.35%	3.62%
Tractor Supply Co	TSCO	111.88		191.48	1.92	10.46	21,423.17	0.06%	0.12%	0.63%
Advanced Micro Devices Inc	AMD	1620.51		94.47	n/a	20.30	153,089.39	0.43%		8.76%
ResMed Inc	RMD	146.29		240.52	0.70	16.25	35,184.47	0.10%	0.07%	1.61%
Mettler-Toledo International Inc	MTD	22.51		1349.73	n/a	11.91	30,378.37	0.09%		1.02%
VICI Properties Inc	VICI	963.09		34.19	4.21	7.06	32,928.15	0.09%	0.39%	0.66%
Copart Inc	CPRT	237.67		128.10	n/a	n/a	0.00	0.00%		
Albemarle Corp	ALB	117.11		244.31	0.65	39.33	28,611.88	0.08%	0.05%	3.17%
Fortinet Inc	FTNT	802.64		59.65	n/a	21.18	47,877.24	0.14%		2.86%
Moderna Inc	MRNA	397.76		164.09	n/a	-98.07	65,268.44	0.18%		-18.05%
Essex Property Trust Inc	ESS	65.12		286.53	3.07	8.42	18,659.98	0.05%	0.16%	0.44%
Realty Income Corp	O	601.60		73.99	4.01	4.07	44,512.24	0.13%	0.50%	0.51%
Westrock Co	WRK	254.85		42.36	2.36	13.48	10,795.53	0.03%	0.07%	0.41%
Westinghouse Air Brake Technologies Corp	WAB	182.65		93.47	0.64	10.81	17,072.11	0.05%	0.03%	0.52%
Pool Corp	POOL	39.59		357.70	1.12	10.60	14,161.70	0.04%	0.04%	0.42%
Western Digital Corp	WDC	313.17		49.10	n/a	2.96	15,376.55	0.04%		0.13%
PepsiCo Inc	PEP	1380.09		174.96	2.63	7.38	241,459.67	0.68%	1.79%	5.02%
Diamondback Energy Inc	FANG	173.63		128.02	9.53	8.31	22,227.60	0.06%	0.60%	0.52%
ServiceNow Inc	NOW	202.00		446.66	n/a	30.70	90,225.32	0.25%		7.81%
Church & Dwight Co Inc	CHD	242.91		87.97	1.19	6.83	21,368.70	0.06%	0.07%	0.41%
Duke Realty Corp	DRE	384.82		62.56	1.79	7.47	24,074.34	0.07%	0.12%	0.51%
Federal Realty OP LP	FRT	79.42		105.61	4.05	9.32	8,387.55	0.02%	0.10%	0.22%
MGM Resorts International	MGM	426.05		32.73	0.03	-16.80	13,944.68	0.04%	0.00%	-0.66%
American Electric Power Co Inc	AEP	513.73		98.56	3.17	6.07	50,633.62	0.14%	0.45%	0.87%
SolarEdge Technologies Inc	SEDG	55.39		360.13	n/a	32.58	19,946.52	0.06%		1.83%
PTC Inc	PTC	116.98		123.38	n/a	11.73	14,432.50	0.04%		0.48%
JB Hunt Transport Services Inc	JBHT	103.81		183.27	0.87	22.37	19,025.81	0.05%	0.05%	1.20%
Lam Research Corp	LRCX	136.98		500.51	1.20	10.12	68,557.36	0.19%	0.23%	1.96%
Mohawk Industries Inc	MHK	63.53		128.48	n/a	13.74	8,162.85	0.02%		0.32%
Pentair PLC	PNR	164.46		48.89	1.72	8.32	8,040.45	0.02%	0.04%	0.19%
Vertex Pharmaceuticals Inc	VRTX	255.76		280.41	n/a	9.36	71,716.54	0.20%		1.89%
Amcor PLC	AMCR	1502.77		12.95	3.71	7.80	19,460.83	0.05%	0.20%	0.43%
Meta Platforms Inc	META	2280.67		159.10	n/a	4.30	362,854.92	1.02%		4.40%
T-Mobile US Inc	TMUS	1254.04		143.06	n/a	32.86	179,403.11	0.51%		16.62%
United Rentals Inc	URI	69.99		322.67	n/a	14.32	22,582.06	0.06%		0.91%
ABIOMED Inc	ABMD	45.63		293.01	n/a	n/a	0.00	0.00%		

Name	Ticker	Shares Outst'g	Price	Dividend Yield	Bloomberg Long-Term Growth Estimate	Market Cap Excl. n/a Growth	% of Total Market Cap.	Cap. Weighted Div. Yield	Cap. Weighted Long-Term Growth
Honeywell International Inc	HON	673.69	192.46	2.04	10.10	129,658.76	0.37%	0.74%	3.69%
Alexandria Real Estate Equities Inc	ARE	163.17	165.78	2.85	-2.04	27,049.99	0.08%	0.22%	-0.16%
Delta Air Lines Inc	DAL	641.20	31.80	n/a	108.27	20,390.10	0.06%		6.22%
Seagate Technology Holdings PLC	STX	214.84	79.98	3.50	1.64	17,183.22	0.05%	0.17%	0.08%
United Airlines Holdings Inc	UAL	326.73	36.75	n/a	-1,118.15	12,007.29	0.03%		-37.86%
News Corp	NWS	197.27	17.28	1.16	10.65	3,408.88	0.01%	0.01%	0.10%
Centene Corp	CNC	580.07	92.97	n/a	13.82	53,929.20	0.15%		2.10%
Martin Marietta Materials Inc	MLM	62.37	352.08	0.69	13.77	21,960.64	0.06%	0.04%	0.85%
Teradyne Inc	TER	160.20	100.89	0.44	8.47	16,162.88	0.05%	0.02%	0.39%
PayPal Holdings Inc	PYPL	1158.04	86.53	n/a	14.79	100,205.20	0.28%		4.18%
Tesla Inc	TSLA	1044.49	891.45	n/a	36.70	931,110.61	2.63%		96.36%
DISH Network Corp	DISH	291.56	17.37	n/a	-8.52	5,064.40	0.01%		-0.12%
Dow Inc	DOW	718.17	53.21	5.26	10.57	38,213.67	0.11%	0.57%	1.14%
Penn National Gaming Inc	PENN	166.80	34.55	n/a	5.66	5,763.04	0.02%		0.09%
Everest Re Group Ltd	RE	39.20	261.35	2.53	14.19	10,244.92	0.03%	0.07%	0.41%
Teledyne Technologies Inc	TDY	46.84	391.40	n/a	10.12	18,334.35	0.05%		0.52%
News Corp	NWSA	388.47	17.14	1.17	10.65	6,658.36	0.02%	0.02%	0.20%
Exelon Corp	EXC	980.14	46.49	2.90	4.03	45,566.57	0.13%	0.37%	0.52%
Global Payments Inc	GPN	281.54	122.32	0.82	16.77	34,437.97	0.10%	0.08%	1.63%
Crown Castle International Corp	CCI	433.00	180.66	3.25	10.05	78,225.78	0.22%	0.72%	2.22%
Aptiv PLC	APTV	270.93	104.89	n/a	24.19	28,417.95	0.08%		1.94%
Advance Auto Parts Inc	AAP	60.64	193.62	3.10	12.38	11,741.12	0.03%	0.10%	0.41%
Align Technology Inc	ALGN	78.81	280.97	n/a	4.32	22,142.12	0.06%		0.27%
Illumina Inc	ILMN	157.10	216.68	n/a	20.10	34,040.43	0.10%		1.93%
LKQ Corp	LKQ	276.60	54.84	1.82	4.27	15,168.74	0.04%	0.08%	0.18%
Nielsen Holdings PLC	NLSN	359.83	23.95	1.00	n/a	0.00	0.00%	0.00%	
Zoetis Inc	ZTS	470.63	182.55	0.71	11.67	85,913.32	0.24%	0.17%	2.83%
Equinix Inc	EQIX	91.08	703.74	1.76	9.86	64,093.12	0.18%	0.32%	1.78%
Digital Realty Trust Inc	DLR	284.73	132.45	3.68	14.53	37,713.02	0.11%	0.39%	1.55%
Las Vegas Sands Corp	LVS	764.16	37.69	n/a	n/a	0.00	0.00%		
Molina Healthcare Inc	MOH	58.10	327.72	n/a	16.41	19,040.53	0.05%		0.88%

MARKET RISK PREMIUM CALCULATION USING CAP. WEIGHTED VALUE LINE GROWTH RATES

[7] Cap. Weighted Estimate of the S&P 500 Dividend Yield	1.59%
[8] Cap. Weighted Estimate of the S&P 500 Growth Rate	13.97%
[9] Cap. Weighted S&P 500 Estimated Required Market Return	15.67%

Notes:

- [7] Source: Bloomberg Professional, as of July 29, 2022
- [8] Source: Bloomberg Professional, as of July 29, 2022 and Value Line, as of July 29, 2022
- [9] Equals $([7] \times (1 + (0.5 \times [8]))) + [8]$

Name	Ticker	Shares Out/g	Price	Dividend Yield	Value Line Long-Term Growth Estimate	Market Cap Excl. n/a Growth	% of Total Market Cap.	Cap. Weighted Div. Yield	Cap. Weighted Long-Term Growth
LyondellBasell Industries NV	LYB	326.21	89.12	5.34	3.50	29,071.48	0.09%	0.46%	0.30%
Signature Bank/New York NY	SBNY	62.93	185.57	1.21	21.50	11,677.73	0.03%	0.04%	0.74%
American Express Co	AXP	749.75	154.02	1.35	10.00	115,476.19	0.34%	0.46%	3.41%
Verizon Communications Inc	VZ	4199.72	46.19	5.54	3.00	193,984.84	0.57%	3.18%	1.72%
Broadcom Inc	AVGO	403.82	535.48	3.06	23.00	216,236.46	0.64%	1.96%	14.70%
Boeing Co/The	BA	593.81	159.31	n/a		0.00	0.00%		
Caterpillar Inc	CAT	533.37	198.25	2.42	8.00	105,741.40	0.31%	0.76%	2.50%
JPMorgan Chase & Co	JPM	2937.05	115.36	3.47	5.00	338,818.09	1.00%	3.47%	5.01%
Chevron Corp	CVX	1964.81	163.78	3.47	26.00	321,797.07	0.95%	3.30%	24.72%
Coca-Cola Co/The	KO	4324.63	64.17	2.74	7.50	277,511.44	0.82%	2.25%	6.15%
AbbVie Inc	ABBV	1767.11	143.51	3.93	4.50	253,597.96	0.75%	2.94%	3.37%
Walt Disney Co/The	DIS	1821.48	106.10	n/a	30.50	193,259.45	0.57%		17.42%
FleetCor Technologies Inc	FLT	77.34	220.09	n/a	10.50	17,021.98	0.05%		0.53%
Extra Space Storage Inc	EXR	134.28	189.52	3.17	4.00	25,448.75	0.08%	0.24%	0.30%
Exxon Mobil Corp	XOM	4212.54	96.93	3.63		0.00	0.00%	0.00%	
Phillips 66	PSX	481.05	89.00	4.36	85.00	42,813.54	0.13%	0.55%	10.75%
General Electric Co	GE	1096.55	73.91	0.43	14.00	81,046.23	0.24%	0.10%	3.35%
HP Inc	HPQ	1034.14	33.39	2.99	12.50	34,529.87	0.10%	0.31%	1.28%
Home Depot Inc/The	HD	1027.76	300.94	2.53	9.00	309,292.59	0.91%	2.31%	8.22%
Monolithic Power Systems Inc	MPWR	46.84	464.72	0.65	18.00	21,675.93	0.06%	0.04%	1.15%
International Business Machines Corp	IBM	903.18	130.79	5.05	3.00	118,126.91	0.35%	1.76%	1.05%
Johnson & Johnson	JNJ	2629.18	174.52	2.59	8.00	458,844.49	1.36%	3.51%	10.85%
McDonald's Corp	MCD	739.55	263.37	2.10	10.50	194,774.49	0.58%	1.21%	6.04%
Merck & Co Inc	MRK	2528.81	89.34	3.09	8.00	225,923.44	0.67%	2.06%	5.34%
3M Co	MMM	569.60	143.24	4.16	6.50	81,590.08	0.24%	1.00%	1.57%
American Water Works Co Inc	AWK	181.79	155.44	1.69	3.00	28,256.82	0.08%	0.14%	0.25%
Bank of America Corp	BAC	8035.24	33.81	2.60	8.50	271,671.43	0.80%	2.09%	6.82%
Pfizer Inc	PFE	5610.90	50.51	3.17	6.50	283,406.36	0.84%	2.65%	5.44%
Procter & Gamble Co/The	PG	2399.30	138.91	2.63	6.50	333,286.35	0.98%	2.59%	6.40%
AT&T Inc	T	7126.00	18.78	5.91	0.50	133,826.28	0.40%	2.34%	0.20%
Travelers Cos Inc/The	TRV	237.31	158.70	2.34	8.00	37,661.57	0.11%	0.26%	0.89%
Raytheon Technologies Corp	RTX	1476.51	93.21	2.36	7.50	137,625.87	0.41%	0.96%	3.05%
Analog Devices Inc	ADI	519.81	171.96	1.77	14.00	89,385.84	0.26%	0.47%	3.70%
Walmart Inc	WMT	2741.15	132.05	1.70	7.50	361,968.86	1.07%	1.81%	8.02%
Cisco Systems Inc	CSCO	4140.96	45.37	3.35	8.00	187,875.54	0.56%	1.86%	4.44%
Intel Corp	INTC	4106.00	36.31	4.02	6.00	149,088.86	0.44%	1.77%	2.64%
General Motors Co	GM	1458.05	36.26	n/a	11.00	52,868.86	0.16%		1.72%
Microsoft Corp	MSFT	7457.89	280.74	0.88	16.50	2,093,728.60	6.19%	5.46%	102.08%
Dollar General Corp	DG	227.00	248.43	0.89	10.00	56,392.86	0.17%	0.15%	1.67%
Cigna Corp	CI	317.27	275.36	1.63	10.00	87,364.29	0.26%	0.42%	2.58%
Kinder Morgan Inc	KMI	2253.00	17.99	6.17	19.00	40,531.49	0.12%	0.74%	2.28%
Citigroup Inc	C	1937.00	51.90	3.93	5.50	100,530.30	0.30%	1.17%	1.63%
American International Group Inc	AIG	792.19	51.77	2.47		0.00	0.00%	0.00%	
Altria Group Inc	MO	1800.82	43.86	8.21	5.50	78,984.10	0.23%	1.92%	1.28%
HCA Healthcare Inc	HCA	295.48	212.42	1.05	12.50	62,766.71	0.19%	0.20%	2.32%
International Paper Co	IP	362.02	42.77	4.33	12.50	15,483.47	0.05%	0.20%	0.57%
Hewlett Packard Enterprise Co	HPE	1299.33	14.24	3.37	7.50	18,502.46	0.05%	0.18%	0.41%
Abbott Laboratories	ABT	1750.94	108.84	1.73	8.00	190,572.53	0.56%	0.97%	4.50%
Aflac Inc	AFL	644.17	57.30	2.79	9.00	36,910.65	0.11%	0.30%	0.98%
Air Products and Chemicals Inc	APD	221.77	248.23	2.61	12.00	55,050.71	0.16%	0.42%	1.95%
Royal Caribbean Cruises Ltd	RCL	255.06	38.71	n/a		0.00	0.00%		
Hess Corp	HES	311.26	112.47	1.33		0.00	0.00%	0.00%	
Archer-Daniels-Midland Co	ADM	560.56	82.77	1.93	13.00	46,397.72	0.14%	0.27%	1.78%
Automatic Data Processing Inc	ADP	416.10	241.12	1.73	10.00	100,330.03	0.30%	0.51%	2.96%
Verisk Analytics Inc	VRSK	157.90	190.25	0.65	10.50	30,040.86	0.09%	0.06%	0.93%
AutoZone Inc	AZO	19.49	2137.39	n/a	14.00	41,653.46	0.12%		1.72%
Avery Dennison Corp	AVY	81.71	190.46	1.58	12.00	15,563.25	0.05%	0.07%	0.55%
Enphase Energy Inc	ENPH	135.46	284.18	n/a	26.50	38,494.17	0.11%		3.01%
MSCI Inc	MSCI	80.50	481.34	1.04	14.50	38,749.31	0.11%	0.12%	1.66%
Ball Corp	BALL	319.79	73.42	1.09	21.50	23,478.91	0.07%	0.08%	1.49%
Ceridian HCM Holding Inc	CDAY	152.65	54.77	n/a		0.00	0.00%		
Carrier Global Corp	CARR	841.58	40.53	1.48		0.00	0.00%	0.00%	

Name	Ticker	Shares Outst'g	Price	Dividend Yield	Value Line			% of Total Market Cap	Cap. Weighted Div. Yield	Cap. Weighted Long-Term Growth
					Long-Term Growth Estimate	Market Cap Excl. n/a Growth	Market Cap			
Bank of New York Mellon Corp/The	BK	808.10	43.46	3.41	6.00	35,120.16	0.10%	0.35%	0.62%	
Otis Worldwide Corp	OTIS	420.23	78.17	1.48	0.00	0.00	0.00%	0.00%		
Baxter International Inc	BAX	503.61	58.66	1.98	10.00	29,541.82	0.09%	0.17%	0.87%	
Becton Dickinson and Co	BDX	285.07	244.31	1.42	5.50	69,644.23	0.21%	0.29%	1.13%	
Berkshire Hathaway Inc	BRK/B	1285.75	300.60	n/a	6.00	386,496.75	1.14%		6.85%	
Best Buy Co Inc	BBY	225.17	76.99	4.57	9.50	17,335.68	0.05%	0.23%	0.49%	
Boston Scientific Corp	BSX	1429.57	41.05	n/a	16.00	58,683.89	0.17%		2.77%	
Bristol-Myers Squibb Co	BMJ	2135.26	73.78	2.93	0.00	0.00	0.00%	0.00%		
Fortune Brands Home & Security Inc	FBHS	129.32	69.68	1.61	10.00	9,010.81	0.03%	0.04%	0.27%	
Brown-Forman Corp	BF/B	309.90	74.22	1.02	14.00	23,000.78	0.07%	0.07%	0.95%	
Coterra Energy Inc	CTRA	805.81	30.59	1.96	0.00	0.00	0.00%	0.00%		
Campbell Soup Co	CPB	300.58	49.35	3.00	5.00	14,833.43	0.04%	0.13%	0.22%	
Hilton Worldwide Holdings Inc	HLT	274.29	128.07	0.47	0.00	0.00	0.00%	0.00%		
Carnival Corp	CCL	1096.76	9.06	n/a	0.00	0.00	0.00%			
Qorvo Inc	QRVO	103.73	104.07	n/a	14.50	10,794.87	0.03%		0.46%	
Lumen Technologies Inc	LUMN	1033.06	10.89	9.18	3.50	11,249.97	0.03%	0.31%	0.12%	
UDR Inc	UDR	324.92	48.40	3.14	10.50	15,726.27	0.05%	0.15%	0.49%	
Clorox Co/The	CLX	123.08	141.84	3.33	4.50	17,457.67	0.05%	0.17%	0.23%	
Paycom Software Inc	PAYC	60.25	330.49	n/a	21.00	19,913.34	0.06%		1.24%	
CMS Energy Corp	CMS	290.20	68.73	2.68	6.50	19,945.17	0.06%	0.16%	0.38%	
Newell Brands Inc	NWL	413.50	20.21	4.55	0.00	0.00	0.00%	0.00%		
Colgate-Palmolive Co	CL	834.12	78.74	2.39	6.50	65,678.61	0.19%	0.46%	1.26%	
EPAM Systems Inc	EPAM	57.15	349.25	n/a	20.50	19,959.99	0.06%		1.21%	
Comerica Inc	CMA	130.82	77.77	3.50	6.00	10,173.87	0.03%	0.11%	0.18%	
Conagra Brands Inc	CAG	480.09	34.21	3.86	4.00	16,423.95	0.05%	0.19%	0.19%	
Consolidated Edison Inc	ED	354.30	99.27	3.18	4.50	35,170.86	0.10%	0.33%	0.47%	
Corning Inc	GLW	845.32	36.76	2.94	17.50	31,073.89	0.09%	0.27%	1.61%	
Cummins Inc	CMJ	141.10	221.31	2.84	8.00	31,226.40	0.09%	0.26%	0.74%	
Caesars Entertainment Inc	CZR	214.37	45.69	n/a	0.00	0.00	0.00%			
Danaher Corp	DHR	727.45	291.47	0.34	17.00	212,028.39	0.63%	0.21%	10.65%	
Target Corp	TGT	463.70	163.38	2.64	13.00	75,758.65	0.22%	0.59%	2.91%	
Deere & Co	DE	305.64	343.18	1.32	15.00	104,888.16	0.31%	0.41%	4.65%	
Dominion Energy Inc	D	811.27	81.98	3.26	14.00	66,507.91	0.20%	0.64%	2.75%	
Dover Corp	DOV	143.55	133.68	1.50	9.00	19,189.63	0.06%	0.08%	0.51%	
Alliant Energy Corp	LNT	250.81	60.93	2.81	6.00	15,282.10	0.05%	0.13%	0.27%	
Duke Energy Corp	DUK	770.00	109.93	3.66	6.00	84,646.10	0.25%	0.91%	1.50%	
Regency Centers Corp	REG	172.36	64.43	3.88	12.50	11,105.28	0.03%	0.13%	0.41%	
Eaton Corp PLC	ETN	399.00	148.39	2.18	12.00	59,207.61	0.17%	0.38%	2.10%	
Ecolab Inc	ECL	285.66	165.17	1.24	10.50	47,181.64	0.14%	0.17%	1.46%	
PerkinElmer Inc	PKI	126.15	153.17	0.18	5.00	19,322.09	0.06%	0.01%	0.29%	
Emerson Electric Co	EMR	594.00	90.07	2.29	10.00	53,501.58	0.16%	0.36%	1.58%	
EOG Resources Inc	EOG	585.71	111.22	2.70	18.00	65,143.00	0.19%	0.52%	3.46%	
Aon PLC	AON	210.93	291.04	0.77	6.50	61,387.90	0.18%	0.14%	1.18%	
Entergy Corp	ETR	203.37	115.13	3.51	4.00	23,414.45	0.07%	0.24%	0.28%	
Equifax Inc	EFX	122.40	208.91	0.75	10.00	25,570.58	0.08%	0.06%	0.78%	
IQVIA Holdings Inc	IQV	186.51	240.27	n/a	14.50	44,812.28	0.13%		1.92%	
Gartner Inc	IT	80.54	265.48	n/a	15.50	21,381.49	0.06%		0.98%	
FedEx Corp	FDX	259.85	233.09	1.97	13.00	60,567.50	0.18%	0.35%	2.33%	
FMC Corp	FMC	125.94	111.10	1.91	11.00	13,991.82	0.04%	0.08%	0.45%	
Brown & Brown Inc	BRO	282.45	65.10	0.63	8.00	18,387.76	0.05%	0.03%	0.43%	
Ford Motor Co	F	3949.39	14.69	4.08	33.50	58,016.47	0.17%	0.70%	5.74%	
NextEra Energy Inc	NEE	1964.78	84.49	2.01	12.50	166,004.18	0.49%	0.99%	6.13%	
Franklin Resources Inc	BEN	498.36	27.45	4.23	9.00	13,679.90	0.04%	0.17%	0.36%	
Garmin Ltd	GRMN	192.86	97.62	2.99	8.00	18,826.51	0.06%	0.17%	0.45%	
Freeport-McMoRan Inc	FCX	1449.26	31.55	1.90	29.00	45,724.22	0.14%	0.26%	3.92%	
Dexcom Inc	DXCM	392.58	82.08	n/a	0.00	0.00	0.00%			
General Dynamics Corp	GD	274.25	226.67	2.22	8.00	62,163.34	0.18%	0.41%	1.47%	
General Mills Inc	GIS	597.16	74.79	2.89	3.50	44,661.45	0.13%	0.38%	0.46%	
Genuine Parts Co	GPC	141.43	152.87	2.34	8.50	21,620.56	0.06%	0.15%	0.54%	
Atmos Energy Corp	ATO	139.02	121.39	2.24	7.50	16,875.03	0.05%	0.11%	0.37%	
WW Grainger Inc	GWW	50.87	543.53	1.27	7.00	27,649.91	0.08%	0.10%	0.57%	
Halliburton Co	HAL	906.94	29.30	1.64	31.00	26,573.46	0.08%	0.13%	2.43%	
L3Harris Technologies Inc	LHX	191.35	239.97	1.87	18.50	45,918.98	0.14%	0.25%	2.51%	
Healthpeak Properties Inc	PEAK	539.56	27.63	4.34	17.00	14,907.96	0.04%	0.19%	0.75%	
Catalent Inc	CTLT	179.21	113.10	n/a	21.00	20,268.99	0.06%		1.26%	
Fortive Corp	FTV	355.70	64.45	0.43	12.00	22,924.67	0.07%	0.03%	0.81%	
Hershey Co/The	HSY	146.87	227.96	1.82	6.50	33,480.49	0.10%	0.18%	0.64%	
Synchrony Financial	SYF	481.76	33.48	2.75	9.50	16,129.29	0.05%	0.13%	0.45%	
Hormel Foods Corp	HRL	546.06	49.34	2.11	6.00	26,942.40	0.08%	0.17%	0.48%	
Arthur J Gallagher & Co	AJG	210.30	178.99	1.14	17.50	37,641.60	0.11%	0.13%	1.95%	
Mondelez International Inc	MDLZ	1370.57	64.04	2.40	9.50	87,771.05	0.26%	0.62%	2.46%	
CenterPoint Energy Inc	CNP	629.43	31.69	2.27	6.50	19,946.70	0.06%	0.13%	0.38%	
Humana Inc	HUM	126.55	482.00	0.65	11.00	60,999.03	0.18%	0.12%	1.98%	
Willis Towers Watson PLC	WTW	109.97	206.94	1.59	8.50	22,756.36	0.07%	0.11%	0.57%	
Illinois Tool Works Inc	ITW	311.44	207.76	2.35	11.00	64,705.40	0.19%	0.45%	2.10%	
CDW Corp/DE	CDW	135.12	181.53	1.10	8.50	24,527.61	0.07%	0.08%	0.62%	
Trane Technologies PLC	TT	233.86	146.99	1.82	0.00	0.00	0.00%	0.00%		
Interpublic Group of Cos Inc/The	IPG	391.03	29.87	3.88	10.00	11,680.01	0.03%	0.13%	0.35%	
International Flavors & Fragrances Inc	IFF	254.84	124.05	2.55	7.50	31,612.65	0.09%	0.24%	0.70%	
Jacobs Engineering Group Inc	J	128.63	137.30	0.67	15.00	17,660.49	0.05%	0.03%	0.78%	
Generac Holdings Inc	GNRC	63.83	268.30	n/a	23.50	17,125.59	0.05%		1.19%	
NXP Semiconductors NV	NXPI	262.60	183.88	1.84	12.00	48,286.52	0.14%	0.26%	1.71%	

Name	Ticker	Shares Outst'g	Price	Dividend Yield	Value Line Long-Term Growth Estimate	Market Cap Excl. n/a Growth	% of Total Market Cap.	Cap. Weighted Div. Yield	Cap. Weighted Long-Term Growth
Kellogg Co	K	337.87	73.92	3.19	3.50	24,975.57	0.07%	0.24%	0.26%
Broadridge Financial Solutions Inc	BR	117.23	160.55	1.59	9.00	18,820.79	0.06%	0.09%	0.50%
Kimberly-Clark Corp	KMB	337.62	131.79	3.52	5.50	44,495.20	0.13%	0.46%	0.72%
Kimco Realty Corp	KIM	618.48	22.11	3.98	8.50	13,674.64	0.04%	0.16%	0.34%
Oracle Corp	ORCL	2664.93	77.84	1.64	9.00	207,437.84	0.61%	1.01%	5.52%
Kroger Co/The	KR	715.56	46.44	2.24	5.50	33,230.61	0.10%	0.22%	0.54%
Lennar Corp	LEN	254.99	85.00	1.76	9.00	21,673.90	0.06%	0.11%	0.58%
Eli Lilly & Co	LLY	950.16	329.69	1.19	11.50	313,258.25	0.93%	1.10%	10.64%
Bath & Body Works Inc	BBWI	228.74	35.54	2.25	26.50	8,129.28	0.02%	0.05%	0.64%
Charter Communications Inc	CHTR	160.66	432.10	n/a	21.50	69,419.03	0.21%		4.41%
Lincoln National Corp	LNC	171.95	51.34	3.51	11.50	8,827.76	0.03%	0.09%	0.30%
Loews Corp	L	246.11	58.25	0.43	18.50	14,335.79	0.04%	0.02%	0.78%
Lowe's Cos Inc	LOW	639.13	191.53	2.19	12.50	122,412.38	0.36%	0.79%	4.52%
IDEX Corp	IEX	75.48	208.75	1.15	11.00	15,755.62	0.05%	0.05%	0.51%
Marsh & McLennan Cos Inc	MMC	499.02	163.96	1.44	12.00	81,818.99	0.24%	0.35%	2.90%
Masco Corp	MAS	225.52	55.38	2.02	8.50	12,489.30	0.04%	0.07%	0.31%
S&P Global Inc	SPGI	339.90	376.93	0.90	9.50	128,118.51	0.38%	0.34%	3.60%
Medtronic PLC	MDT	1328.71	92.52	2.94	8.50	122,932.16	0.36%	1.07%	3.09%
Viatis Inc	VTRS	1212.33	9.69	4.95		0.00	0.00%	0.00%	
CVS Health Corp	CVS	1311.31	95.68	2.30	6.00	125,466.05	0.37%	0.85%	2.22%
DuPont de Nemours Inc	DD	508.53	61.23	2.16	10.00	31,137.11	0.09%	0.20%	0.92%
Micron Technology Inc	MU	1103.15	61.86	0.74	24.00	68,240.55	0.20%	0.15%	4.84%
Motorola Solutions Inc	MSI	167.30	238.59	1.32	8.00	39,915.39	0.12%	0.16%	0.94%
Cboe Global Markets Inc	CBOE	106.06	123.38	1.56		0.00	0.00%	0.00%	
Laboratory Corp of America Holdings	LH	93.18	262.19	1.10	6.00	24,429.82	0.07%	0.08%	0.43%
Newmont Corp	NEM	793.68	45.28	4.86	9.50	35,937.83	0.11%	0.52%	1.01%
NIKE Inc	NKE	1263.65	114.92	1.06	24.00	145,219.00	0.43%	0.46%	10.30%
NiSource Inc	NI	405.80	30.40	3.09	9.50	12,336.26	0.04%	0.11%	0.35%
Norfolk Southern Corp	NSC	234.87	251.17	1.97	10.00	58,993.30	0.17%	0.34%	1.74%
Principal Financial Group Inc	PFJ	252.68	66.94	3.82	6.00	16,914.67	0.05%	0.19%	0.30%
Eversource Energy	ES	344.88	88.22	2.89	6.00	30,425.14	0.09%	0.26%	0.54%
Northrop Grumman Corp	NOC	154.71	478.90	1.44	7.50	74,091.10	0.22%	0.32%	1.64%
Wells Fargo & Co	WFC	3790.35	43.87	2.74	11.50	166,282.74	0.49%	1.34%	5.65%
Nucor Corp	NUE	266.00	135.80	1.47	10.00	36,122.80	0.11%	0.16%	1.07%
PVH Corp	PVH	66.96	61.92	0.24	13.50	4,146.23	0.01%	0.00%	0.17%
Occidental Petroleum Corp	OXY	937.19	65.75	0.79		0.00	0.00%	0.00%	
Omnicom Group Inc	OMC	204.84	69.84	4.01	6.50	14,306.24	0.04%	0.17%	0.27%
ONEOK Inc	OKE	446.62	59.74	6.26	11.00	26,680.84	0.08%	0.49%	0.87%
Raymond James Financial Inc	RJF	215.50	98.47	1.38	10.50	21,220.29	0.06%	0.09%	0.66%
Parker-Hannifin Corp	PH	128.37	289.09	1.84	13.50	37,111.06	0.11%	0.20%	1.48%
Rollins Inc	ROL	492.42	38.57	1.04	10.50	18,992.52	0.06%	0.06%	0.59%
PPL Corp	PPL	735.90	29.08	3.09		0.00	0.00%	0.00%	
ConocoPhillips	COP	1293.45	97.43	1.89	20.00	126,020.83	0.37%	0.70%	7.45%
PulteGroup Inc	PHM	231.50	43.62	1.38	11.00	10,097.94	0.03%	0.04%	0.33%
Pinnacle West Capital Corp	PNW	113.00	73.47	4.63	0.50	8,302.18	0.02%	0.11%	0.01%
PNC Financial Services Group Inc/The	PNC	413.58	165.94	3.62	12.00	68,629.63	0.20%	0.73%	2.43%
PPG Industries Inc	PPG	235.00	129.29	1.92	4.00	30,382.76	0.09%	0.17%	0.36%
Progressive Corp/The	PGR	584.90	115.06	0.35	4.50	67,298.59	0.20%	0.07%	0.89%
Public Service Enterprise Group Inc	PEG	499.26	65.67	3.29	4.00	32,786.34	0.10%	0.32%	0.39%
Robert Half International Inc	RHI	110.51	79.14	2.17	7.50	8,746.08	0.03%	0.06%	0.19%
Edison International	EIX	381.43	67.77	4.13		0.00	0.00%	0.00%	
Schlumberger NV	SLB	1414.39	37.03	1.89	23.00	52,374.79	0.15%	0.29%	3.56%
Charles Schwab Corp/The	SCHW	1817.06	69.05	1.27	9.00	125,467.79	0.37%	0.47%	3.34%
Sherwin-Williams Co/The	SHW	259.18	241.94	0.99	11.50	62,706.74	0.19%	0.18%	2.13%
West Pharmaceutical Services Inc	WST	74.05	343.56	0.21	17.00	25,439.93	0.08%	0.02%	1.28%
J M Smucker Co/The	SJM	106.56	132.32	3.08	4.00	14,099.75	0.04%	0.13%	0.17%
Snap-on Inc	SNA	53.27	224.05	2.54	4.50	11,934.70	0.04%	0.09%	0.16%
AMETEK Inc	AME	230.91	123.50	0.71	10.00	28,517.39	0.08%	0.06%	0.84%
Southern Co/The	SO	1062.53	76.89	3.54	6.50	81,697.55	0.24%	0.85%	1.57%
Truist Financial Corp	TFC	1331.41	50.47	4.12	6.50	67,196.46	0.20%	0.82%	1.29%
Southwest Airlines Co	LUV	592.96	38.12	n/a	29.50	22,603.48	0.07%		1.97%
W R Berkley Corp	WRB	265.27	62.53	0.64	15.50	16,587.52	0.05%	0.03%	0.76%
Stanley Black & Decker Inc	SWK	147.82	97.33	3.29	6.00	14,386.93	0.04%	0.14%	0.26%
Public Storage	PSA	175.53	326.41	2.45	8.00	57,294.42	0.17%	0.41%	1.35%
Arista Networks Inc	ANET	308.26	116.63	n/a	8.50	35,952.83	0.11%		0.90%
Sysco Corp	SY	509.48	84.90	2.31	16.50	43,254.51	0.13%	0.30%	2.11%
Corteva Inc	CTVA	725.32	57.55	1.04	16.50	41,742.17	0.12%	0.13%	2.04%
Texas Instruments Inc	TXN	913.71	178.89	2.57	9.00	163,453.05	0.48%	1.24%	4.35%
Textron Inc	TXT	211.53	65.64	0.12	8.50	13,884.96	0.04%	0.01%	0.35%
Thermo Fisher Scientific Inc	TMO	391.46	598.41	0.20	15.50	234,254.78	0.69%	0.14%	10.73%
TJX Cos Inc/The	TJX	1171.64	61.16	1.93	20.00	71,657.26	0.21%	0.41%	4.23%
Globe Life Inc	GL	98.60	100.73	0.82	8.00	9,931.98	0.03%	0.02%	0.23%
Johnson Controls International plc	JCI	695.67	53.91	2.60	12.50	37,503.52	0.11%	0.29%	1.39%
Ulta Beauty Inc	ULTA	51.82	388.91	n/a	15.00	20,152.54	0.06%		0.89%
Union Pacific Corp	UNP	624.48	227.30	2.29	9.50	141,944.08	0.42%	0.96%	3.98%
Keysight Technologies Inc	KEYS	179.95	162.60	n/a	13.00	29,259.22	0.09%		1.12%
UnitedHealth Group Inc	UNH	938.17	542.34	1.22	12.00	508,808.20	1.50%	1.83%	18.04%
Marathon Oil Corp	MRO	707.69	24.80	1.29		0.00	0.00%	0.00%	
Bio-Rad Laboratories Inc	BIO	24.63	563.26	n/a	11.50	13,875.35	0.04%		0.47%
Ventas Inc	VTR	399.70	53.78	3.35	10.50	21,495.65	0.06%	0.21%	0.67%
VF Corp	VFC	388.48	44.68	4.48	9.50	17,357.29	0.05%	0.23%	0.49%
Vornado Realty Trust	VNO	191.74	30.39	6.98	-20.50	5,827.07	0.02%	0.12%	-0.35%

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Vulcan Materials Co	VMC	132.90	165.33	0.97	8.50	21,971.70	0.06%	0.06%	0.55%
Weyerhaeuser Co	WY	744.50	36.32	1.98	6.00	27,040.17	0.08%	0.16%	0.48%
Whirlpool Corp	WHR	54.51	172.87	4.05	6.00	9,422.80	0.03%	0.11%	0.17%
Williams Cos Inc/The	WMB	1218.01	34.09	4.99	8.50	41,522.03	0.12%	0.61%	1.04%
Constellation Energy Corp	CEG	326.66	66.10	0.85		0.00	0.00%	0.00%	
WEC Energy Group Inc	WEC	315.44	103.81	2.80	6.00	32,745.31	0.10%	0.27%	0.58%
Adobe Inc	ADBE	468.00	410.12	n/a	14.50	191,936.16	0.57%		8.22%
AES Corp/The	AES	667.86	22.22	2.84	14.00	14,839.85	0.04%	0.12%	0.61%
Amgen Inc	AMGN	534.20	247.47	3.14	5.50	132,198.47	0.39%	1.22%	2.15%
Apple Inc	AAPL	16070.75	162.51	0.57	14.00	2,611,657.91	7.72%	4.37%	108.03%
Autodesk Inc	ADSK	217.27	216.32	n/a	14.00	47,000.28	0.14%		1.94%
Cintas Corp	CTAS	101.19	425.49	1.08	13.50	43,054.48	0.13%	0.14%	1.72%
Comcast Corp	CMCSA	4403.79	37.52	2.88	9.50	165,230.35	0.49%	1.41%	4.64%
Molson Coors Beverage Co	TAP	200.53	59.75	2.54	49.50	11,981.49	0.04%	0.09%	1.75%
KLA Corp	KLAC	149.24	383.54	1.10	21.00	57,237.59	0.17%	0.19%	3.55%
Marriott International Inc/MD	MAR	327.30	158.82	0.76	17.50	51,981.47	0.15%	0.12%	2.69%
McCormick & Co Inc/MD	MKC	250.47	87.35	1.69	5.50	21,878.73	0.06%	0.11%	0.36%
PACCAR Inc	PCAR	347.70	91.52	1.49	5.00	31,821.50	0.09%	0.14%	0.47%
Costco Wholesale Corp	COST	442.96	541.30	0.67	10.50	239,775.87	0.71%	0.47%	7.44%
First Republic Bank/CA	FRC	179.68	162.71	0.66	11.50	29,236.38	0.09%	0.06%	0.99%
Stryker Corp	SYK	378.32	214.75	1.29	8.50	81,244.43	0.24%	0.31%	2.04%
Tyson Foods Inc	TSN	291.54	88.01	2.09	6.00	25,658.35	0.08%	0.16%	0.45%
Lamb Weston Holdings Inc	LW	143.75	79.66	1.23	5.00	11,450.97	0.03%	0.04%	0.17%
Applied Materials Inc	AMAT	869.95	105.98	0.98	14.50	92,196.98	0.27%	0.27%	3.95%
American Airlines Group Inc	AAL	649.85	13.71	n/a		0.00	0.00%		
Cardinal Health Inc	CAH	272.43	59.56	3.33	5.00	16,225.75	0.05%	0.16%	0.24%
Cincinnati Financial Corp	CINF	159.20	97.34	2.84	7.00	15,496.43	0.05%	0.13%	0.32%
Paramount Global	PARA	608.40	23.65	4.06	4.50	14,388.54	0.04%	0.17%	0.19%
DR Horton Inc	DHI	347.48	78.03	1.15	13.00	27,113.94	0.08%	0.09%	1.04%
Electronic Arts Inc	EA	279.31	131.23	0.58	11.50	36,653.33	0.11%	0.06%	1.25%
Expeditors International of Washington Inc	EXPD	167.75	106.25	1.26	10.00	17,823.86	0.05%	0.07%	0.53%
Fastenal Co	FAST	574.68	51.36	2.41	8.50	29,515.51	0.09%	0.21%	0.74%
M&T Bank Corp	MTB	175.97	177.45	2.70	8.00	31,225.70	0.09%	0.25%	0.74%
Xcel Energy Inc	XEL	546.99	73.18	2.66	6.00	40,028.80	0.12%	0.32%	0.71%
Fiserv Inc	FISV	639.58	105.68	n/a	11.00	67,591.24	0.20%		2.20%
Fifth Third Bancorp	FITB	686.15	34.12	3.52	11.00	23,411.51	0.07%	0.24%	0.76%
Gilead Sciences Inc	GILD	1254.31	59.75	4.89	13.50	74,945.20	0.22%	1.08%	2.99%
Hasbro Inc	HAS	138.09	78.72	3.56	11.50	10,870.52	0.03%	0.11%	0.37%
Huntington Bancshares Inc/OH	HBAN	1442.19	13.29	4.67	12.50	19,166.76	0.06%	0.26%	0.71%
Welltower Inc	WELL	453.97	86.34	2.83	3.50	39,195.60	0.12%	0.33%	0.41%
Biogen Inc	BIIB	145.11	215.06	n/a	-10.50	31,208.00	0.09%		-0.97%
Northern Trust Corp	NTRS	208.39	99.78	3.01	8.00	20,792.85	0.06%	0.18%	0.49%
Packaging Corp of America	PKG	93.70	140.61	3.56	11.00	13,175.30	0.04%	0.14%	0.43%
Paychex Inc	PAYX	359.91	128.28	2.46	10.00	46,168.87	0.14%	0.34%	1.36%
QUALCOMM Inc	QCOM	1123.00	145.06	2.07	19.00	162,902.38	0.48%	1.00%	9.15%
Roper Technologies Inc	ROP	105.91	436.67	0.57	8.50	46,249.03	0.14%	0.08%	1.16%
Ross Stores Inc	ROST	349.93	81.26	1.53	14.00	28,434.99	0.08%	0.13%	1.18%
IDEXX Laboratories Inc	IDXX	84.01	399.18	n/a	12.00	33,533.91	0.10%		1.19%
Starbucks Corp	SBUX	1146.90	84.78	2.31	16.50	97,234.18	0.29%	0.66%	4.74%
KeyCorp	KEY	932.40	18.30	4.26	9.00	17,062.88	0.05%	0.21%	0.45%
Fox Corp	FOXA	311.68	33.11	1.45	11.00	10,319.86	0.03%	0.04%	0.34%
Fox Corp	FOX	245.07	30.90	1.55		0.00	0.00%	0.00%	
State Street Corp	STT	367.62	71.04	3.55	9.50	26,115.65	0.08%	0.27%	0.73%
Norwegian Cruise Line Holdings Ltd	NCLH	419.10	12.15	n/a		0.00	0.00%		
US Bancorp	USB	1486.00	47.20	3.90	6.00	70,139.20	0.21%	0.81%	1.24%
A O Smith Corp	AOS	128.48	63.27	1.77	11.50	8,128.74	0.02%	0.04%	0.28%
NortonLifeLock Inc	NLOK	571.37	24.53	2.04	9.50	14,015.68	0.04%	0.08%	0.39%
T Rowe Price Group Inc	TROW	225.69	123.47	3.89	9.50	27,866.19	0.08%	0.32%	0.78%
Waste Management Inc	WM	413.34	164.56	1.58	6.50	68,018.57	0.20%	0.32%	1.31%
Constellation Brands Inc	STZ	159.34	246.31	1.30	5.00	39,245.80	0.12%	0.15%	0.58%
DENTSPLY SIRONA Inc	XRAY	215.45	36.16	1.38	12.00	7,790.74	0.02%	0.03%	0.28%
Zions Bancorp NA	ZION	150.47	54.55	3.01	6.50	8,208.19	0.02%	0.07%	0.16%
Alaska Air Group Inc	ALK	126.76	44.33	n/a		0.00	0.00%		
Invesco Ltd	IVZ	454.90	17.74	4.23	14.00	8,069.93	0.02%	0.10%	0.33%
Linde PLC	LIN	498.37	302.00	1.55	12.00	150,506.53	0.44%	0.69%	5.34%
Intuit Inc	INTU	282.08	456.17	0.60	17.50	128,675.07	0.38%	0.23%	6.65%
Morgan Stanley	MS	1749.28	84.30	3.68	10.50	147,464.64	0.44%	1.60%	4.58%
Microchip Technology Inc	MCHP	552.48	68.86	1.60	10.00	38,044.05	0.11%	0.18%	1.12%
Chubb Ltd	CB	417.64	188.64	1.76	11.00	78,783.80	0.23%	0.41%	2.56%
Hologic Inc	HOLX	249.65	71.38	n/a	25.00	17,820.23	0.05%		1.32%
Citizens Financial Group Inc	CFG	495.45	37.97	4.42	9.00	18,812.08	0.06%	0.25%	0.50%
O'Reilly Automotive Inc	ORLY	63.75	703.59	n/a	13.00	44,855.97	0.13%		1.72%
Allstate Corp/The	ALL	274.98	116.97	2.91	4.50	32,164.76	0.10%	0.28%	0.43%
Equity Residential	EQR	376.12	78.39	3.19	-6.00	29,483.89	0.09%	0.28%	-0.52%
BorgWarner Inc	BWA	239.58	38.46	1.77	9.50	9,214.05	0.03%	0.05%	0.26%
Keurig Dr Pepper Inc	KDP	1416.07	38.74	1.94	11.50	54,858.55	0.16%	0.31%	1.86%
Organon & Co	OGN	253.64	31.72	3.53		0.00	0.00%	0.00%	
Host Hotels & Resorts Inc	HST	714.78	17.81	1.35	57.00	12,730.18	0.04%	0.05%	2.14%
Incyte Corp	INCY	221.51	77.68	n/a	25.50	17,206.51	0.05%		1.30%
Simon Property Group Inc	SPG	328.64	108.64	6.26	3.00	35,703.34	0.11%	0.66%	0.32%
Eastman Chemical Co	EMN	128.95	95.93	3.17	9.50	12,370.17	0.04%	0.12%	0.35%
Twitter Inc	TWTR	765.25	41.61	n/a		0.00	0.00%		

Name	Ticker	Shares Outst'g	Price	Dividend Yield	Value Line Long-Term Growth Estimate	Market Cap Excl. n/a Growth	% of Total Market Cap.	Cap. Weighted Div. Yield	Cap. Weighted Long-Term Growth
AvalonBay Communities Inc	AVB	139.82	213.94	2.97	6.50	29,912.66	0.09%	0.26%	0.57%
Prudential Financial Inc	PRU	375.00	99.99	4.80	5.50	37,496.25	0.11%	0.53%	0.61%
United Parcel Service Inc	UPS	734.44	194.89	3.12	11.50	143,134.62	0.42%	1.32%	4.86%
Walgreens Boots Alliance Inc	WBA	864.26	39.62	4.85	7.50	34,241.86	0.10%	0.49%	0.76%
STERIS PLC	STE	100.08	225.65	0.83	11.50	22,583.05	0.07%	0.06%	0.77%
McKesson Corp	MCK	143.58	341.58	0.63	10.00	49,044.40	0.14%	0.09%	1.45%
Lockheed Martin Corp	LMT	265.15	413.81	2.71	7.00	109,722.55	0.32%	0.88%	2.27%
AmerisourceBergen Corp	ABC	209.46	145.93	1.26	8.50	30,567.08	0.09%	0.11%	0.77%
Capital One Financial Corp	COF	383.82	109.83	2.19		0.00	0.00%	0.00%	
Waters Corp	WAT	60.24	364.03	n/a	6.00	21,927.35	0.06%		0.39%
Nordson Corp	NDSN	57.51	230.99	0.88	12.00	13,284.70	0.04%	0.03%	0.47%
Dollar Tree Inc	DLTR	224.56	165.36	n/a	12.00	37,132.58	0.11%		1.32%
Darden Restaurants Inc	DRI	123.95	124.49	3.89	19.50	15,430.04	0.05%	0.18%	0.89%
Match Group Inc	MTCH	285.59	73.31	n/a	21.00	20,936.82	0.06%		1.30%
Domino's Pizza Inc	DPZ	35.89	392.11	1.12	15.50	14,070.87	0.04%	0.05%	0.64%
NVR Inc	NVR	3.28	4393.10	n/a	5.50	14,426.94	0.04%		0.23%
NetApp Inc	NTAP	219.74	71.33	2.80	8.00	15,673.70	0.05%	0.13%	0.37%
Citrix Systems Inc	CTXS	126.89	101.41	n/a	9.00	12,867.41	0.04%		0.34%
DXC Technology Co	DXC	229.66	31.60	n/a	12.00	7,257.10	0.02%		0.26%
Old Dominion Freight Line Inc	ODFL	113.35	303.51	0.40	12.00	34,404.07	0.10%	0.04%	1.22%
DaVita Inc	DVA	94.60	84.16	n/a	12.00	7,961.54	0.02%		0.28%
Hartford Financial Services Group Inc/The	HIG	323.14	64.47	2.39	6.50	20,832.96	0.06%	0.15%	0.40%
Iron Mountain Inc	IRM	290.56	48.49	5.10	11.00	14,089.35	0.04%	0.21%	0.46%
Estee Lauder Cos Inc/The	EL	231.81	273.10	0.88	14.00	63,305.95	0.19%	0.16%	2.62%
Cadence Design Systems Inc	CDNS	273.87	186.08	n/a	12.00	50,961.73	0.15%		1.81%
Tyler Technologies Inc	TYL	41.58	399.00	n/a	12.00	16,590.82	0.05%		0.59%
Universal Health Services Inc	UHS	67.13	112.47	0.71	9.00	7,549.89	0.02%	0.02%	0.20%
Skyworks Solutions Inc	SWKS	160.93	108.88	2.06	15.50	17,521.62	0.05%	0.11%	0.80%
Quest Diagnostics Inc	DGX	116.61	136.57	1.93	7.00	15,924.88	0.05%	0.09%	0.33%
Activision Blizzard Inc	ATVI	781.88	79.95	0.59	14.00	62,511.39	0.18%	0.11%	2.59%
Rockwell Automation Inc	ROK	115.44	255.28	1.75	9.50	29,468.25	0.09%	0.15%	0.83%
Kraft Heinz Co/The	KHC	1225.44	36.83	4.34	5.50	45,132.96	0.13%	0.58%	0.73%
American Tower Corp	AMT	465.59	270.83	2.11	9.00	126,094.93	0.37%	0.79%	3.35%
Regeneron Pharmaceuticals Inc	REGN	108.03	581.69	n/a	3.00	62,838.81	0.19%		0.56%
Amazon.com Inc	AMZN	10187.56	134.95	n/a	26.50	1,374,810.55	4.06%		107.65%
Jack Henry & Associates Inc	JKHY	72.86	207.77	0.94	9.00	15,138.54	0.04%	0.04%	0.40%
Ralph Lauren Corp	RL	44.83	98.63	3.04	12.50	4,421.39	0.01%	0.04%	0.16%
Boston Properties Inc	BXP	156.73	91.16	4.30	-1.00	14,287.14	0.04%	0.18%	-0.04%
Amphenol Corp	APH	594.83	77.13	1.04	12.50	45,879.08	0.14%	0.14%	1.69%
Howmet Aerospace Inc	HWM	417.91	37.13	0.22	12.00	15,517.15	0.05%	0.01%	0.55%
Pioneer Natural Resources Co	PXD	241.96	236.95	12.46	21.00	57,332.19	0.17%	2.11%	3.56%
Valero Energy Corp	VLO	393.97	110.77	3.54	11.00	43,640.06	0.13%	0.46%	1.42%
Synopsys Inc	SNPS	152.97	367.50	n/a	12.50	56,216.48	0.17%		2.08%
Etsy Inc	ETSY	126.61	103.72	n/a	24.50	13,131.89	0.04%		0.95%
CH Robinson Worldwide Inc	CHRW	123.88	110.70	1.99	8.00	13,713.85	0.04%	0.08%	0.32%
Accenture PLC	ACN	664.19	306.26	1.27	12.50	203,414.22	0.60%	0.76%	7.51%
TransDigm Group Inc	TDG	54.61	622.34	n/a	18.00	33,983.50	0.10%		1.81%
Yum! Brands Inc	YUM	285.16	122.54	1.86	10.50	34,944.00	0.10%	0.19%	1.08%
Prologis Inc	PLD	739.75	132.56	2.38	6.00	98,060.60	0.29%	0.69%	1.74%
FirstEnergy Corp	FE	571.40	41.10	3.80	7.50	23,484.33	0.07%	0.26%	0.52%
VeriSign Inc	VRSN	107.28	189.16	n/a	11.00	20,293.65	0.06%		0.66%
Quanta Services Inc	PWR	143.71	138.73	0.20	12.50	19,936.75	0.06%	0.01%	0.74%
Henry Schein Inc	HSIC	138.05	78.83	n/a	7.00	10,882.56	0.03%		0.23%
Ameren Corp	AEE	258.09	93.12	2.53	6.50	24,033.53	0.07%	0.18%	0.46%
ANSYS Inc	ANSS	86.99	278.99	n/a	8.50	24,269.34	0.07%		0.61%
FactSet Research Systems Inc	FDS	37.98	429.68	0.83	10.50	16,319.25	0.05%	0.04%	0.51%
NVIDIA Corp	NVDA	2500.00	181.63	0.09	23.00	454,075.00	1.34%	0.12%	30.86%
Sealed Air Corp	SEE	146.08	61.12	1.31	10.00	8,928.65	0.03%	0.03%	0.26%
Cognizant Technology Solutions Corp	CTSH	517.79	67.96	1.59	7.50	35,188.67	0.10%	0.17%	0.78%
SVB Financial Group	SIVB	59.08	403.55	n/a	6.50	23,842.14	0.07%		0.46%
Intuitive Surgical Inc	ISRG	357.11	230.17	n/a	12.50	82,196.24	0.24%		3.04%
Take-Two Interactive Software Inc	TTWO	166.49	132.73	n/a	10.50	22,098.08	0.07%		0.69%
Republic Services Inc	RSG	315.89	138.66	1.43	12.50	43,801.45	0.13%	0.18%	1.62%
eBay Inc	EBAY	559.84	48.63	1.81	15.50	27,225.12	0.08%	0.15%	1.25%
Goldman Sachs Group Inc/The	GS	343.45	333.39	3.00	5.00	114,501.80	0.34%	1.01%	1.69%
SBA Communications Corp	SBAC	107.83	335.79	0.85	35.50	36,207.90	0.11%	0.09%	3.80%
Sempra Energy	SRE	314.31	165.80	2.76	7.50	52,111.77	0.15%	0.43%	1.15%
Moody's Corp	MCO	183.50	310.25	0.90	8.00	56,930.88	0.17%	0.15%	1.35%
ON Semiconductor Corp	ON	434.51	66.78	n/a	23.00	29,016.31	0.09%		1.97%
Booking Holdings Inc	BKNG	40.62	1935.69	n/a	22.00	78,633.53	0.23%		5.11%
F5 Inc	FFIV	59.56	167.36	n/a	10.00	9,967.29	0.03%		0.29%
Akamai Technologies Inc	AKAM	160.31	96.22	n/a	5.50	15,424.55	0.05%		0.25%
Charles River Laboratories International Inc	CRL	50.81	250.54	n/a	12.00	12,728.68	0.04%		0.45%
MarketAxess Holdings Inc	MKTX	37.64	270.78	1.03	10.50	10,192.16	0.03%	0.03%	0.32%
Devon Energy Corp	DVN	660.00	62.85	8.08	30.00	41,481.00	0.12%	0.99%	3.68%
Bio-Techne Corp	TECH	39.23	385.28	0.33	17.50	15,116.08	0.04%	0.01%	0.78%
Alphabet Inc	GOOGL	5996.00	116.32	n/a		0.00	0.00%		
Teleflex Inc	TFX	46.91	240.46	0.57	13.50	11,278.78	0.03%	0.02%	0.45%
Netflix Inc	NFLX	444.71	224.90	n/a	10.50	100,014.38	0.30%		3.10%
Allegion plc	ALLE	87.84	105.70	1.55	14.50	9,284.48	0.03%	0.04%	0.40%
Agilent Technologies Inc	A	298.71	134.10	0.63		0.00	0.00%	0.00%	
Warner Bros Discovery Inc	WBD	2426.84	15.00	n/a	11.50	36,402.66	0.11%		1.24%

Name	Ticker	Shares Outst'g	Price	Dividend Yield	Value Line			% of Total Market Cap	Cap. Weighted Div. Yield	Cap. Weighted Long-Term Growth
					Long-Term Growth Estimate	Market Cap Excl. n/a Growth	Market Cap			
Elevance Health Inc	ELV	240.00	477.10	1.07	10.00	114,504.48	0.34%	0.36%	3.38%	
Trimble Inc	TRMB	250.14	69.43	n/a	12.50	17,367.36	0.05%		0.64%	
CME Group Inc	CME	359.42	199.48	2.01	8.50	71,696.70	0.21%	0.42%	1.80%	
Juniper Networks Inc	JNPR	322.61	28.03	3.00	9.00	9,042.73	0.03%	0.08%	0.24%	
BlackRock Inc	BLK	151.50	669.18	2.92	10.00	101,382.78	0.30%	0.87%	3.00%	
DTE Energy Co	DTE	193.74	130.30	2.72	4.50	25,244.58	0.07%	0.20%	0.34%	
Nasdaq Inc	NDAQ	164.68	180.90	0.44	7.50	29,790.25	0.09%	0.04%	0.66%	
Celanese Corp	CE	108.35	117.51	2.31	6.00	12,732.09	0.04%	0.09%	0.23%	
Philip Morris International Inc	PM	1550.16	97.15	5.15	7.00	150,598.34	0.44%	2.29%	3.11%	
Salesforce Inc	CRM	995.00	184.02	n/a		0.00	0.00%			
Ingersoll Rand Inc	IR	405.93	49.80	0.16	16.50	20,215.31	0.06%	0.01%	0.99%	
Huntington Ingalls Industries Inc	HII	40.05	216.84	2.18	10.00	8,683.79	0.03%	0.06%	0.26%	
MetLife Inc	MET	813.21	63.25	3.16	7.50	51,435.28	0.15%	0.48%	1.14%	
Tapestry Inc	TPR	251.80	33.63	2.97	10.00	8,468.10	0.03%	0.07%	0.25%	
CSX Corp	CSX	2141.24	32.33	1.24	10.00	69,226.32	0.20%	0.25%	2.05%	
Edwards Lifesciences Corp	EW	619.94	100.54	n/a	12.50	62,329.07	0.18%		2.30%	
Ameriprise Financial Inc	AMP	109.90	269.92	1.85	12.50	29,665.29	0.09%	0.16%	1.10%	
Zebra Technologies Corp	ZBRA	52.51	357.69	n/a	11.50	18,783.73	0.06%		0.64%	
Zimmer Biomet Holdings Inc	ZBH	209.58	110.39	0.87	7.00	23,135.21	0.07%	0.06%	0.48%	
CBRE Group Inc	CBRE	326.86	85.62	n/a	2.50	27,985.84	0.08%		0.21%	
Camden Property Trust	CPT	106.53	141.10	2.66	8.50	15,031.10	0.04%	0.12%	0.38%	
Mastercard Inc	MA	958.68	353.79	0.55	18.50	339,169.98	1.00%	0.56%	18.54%	
CarMax Inc	KMX	159.17	99.54	n/a	13.00	15,843.38	0.05%		0.61%	
Intercontinental Exchange Inc	ICE	558.27	101.99	1.49	6.50	56,937.55	0.17%	0.25%	1.09%	
Fidelity National Information Services Inc	FIS	607.95	102.16	1.84	52.00	62,107.76	0.18%	0.34%	9.54%	
Chipotle Mexican Grill Inc	CMG	27.77	1564.22	n/a	16.50	43,430.57	0.13%		2.12%	
Wynn Resorts Ltd	WYNN	115.97	63.48	n/a	27.00	7,361.46	0.02%		0.59%	
Live Nation Entertainment Inc	LYV	228.06	93.99	n/a		0.00	0.00%			
Assurant Inc	AIZ	54.09	175.78	1.55	15.50	9,507.06	0.03%	0.04%	0.44%	
NRG Energy Inc	NRG	237.28	37.75	3.71	-10.50	8,957.47	0.03%	0.10%	-0.28%	
Regions Financial Corp	RF	934.50	21.18	3.78	11.50	19,792.71	0.06%	0.22%	0.67%	
Monster Beverage Corp	MNST	529.67	99.62	n/a	11.50	52,765.83	0.16%		1.79%	
Mosaic Co/The	MOS	361.99	52.66	1.14		0.00	0.00%	0.00%		
Baker Hughes Co	BKR	1011.75	25.69	2.80	33.00	25,991.96	0.08%	0.22%	2.53%	
Expedia Group Inc	EXPE	151.57	106.05	n/a		0.00	0.00%			
Everygy Inc	EVRG	229.48	68.26	3.35	7.50	15,664.17	0.05%	0.16%	0.35%	
CF Industries Holdings Inc	CF	208.60	95.49	1.68	26.50	19,919.40	0.06%	0.10%	1.56%	
Leidos Holdings Inc	LDOS	136.66	107.00	1.35		0.00	0.00%	0.00%		
APA Corp	APA	338.23	37.17	1.35	9.00	12,572.08	0.04%	0.05%	0.33%	
Alphabet Inc	GOOG	6163.00	116.64	n/a	18.50	718,852.32	2.12%		39.29%	
TE Connectivity Ltd	TEL	319.84	133.73	1.68	16.00	42,772.07	0.13%	0.21%	2.02%	
Cooper Cos Inc/The	COO	49.34	327.00	0.02	10.50	16,132.87	0.05%	0.00%	0.50%	
Discover Financial Services	DFS	273.17	101.00	2.38	16.00	27,590.27	0.08%	0.19%	1.30%	
Visa Inc	V	1635.02	212.11	0.71	13.50	346,803.03	1.02%	0.72%	13.83%	
Mid-America Apartment Communities Inc	MAA	115.44	185.73	2.69	4.50	21,440.49	0.06%	0.17%	0.29%	
Xylem Inc/NY	XYL	180.09	92.03	1.30	6.50	16,573.96	0.05%	0.06%	0.32%	
Marathon Petroleum Corp	MPC	541.00	91.66	2.53		0.00	0.00%	0.00%		
Tractor Supply Co	TSCO	111.88	191.48	1.92	25.50	21,423.17	0.06%	0.12%	1.61%	
Advanced Micro Devices Inc	AMD	1620.51	94.47	n/a	12.50	153,089.39	0.45%		5.65%	
ResMed Inc	RMD	146.29	240.52	0.70	8.50	35,184.47	0.10%	0.07%	0.88%	
Mettler-Toledo International Inc	MTD	22.51	1349.73	n/a	13.50	30,378.37	0.09%		1.21%	
VICI Properties Inc	VICI	963.09	34.19	4.21	12.00	32,928.15	0.10%	0.41%	1.17%	
Copart Inc	CPRT	237.67	128.10	n/a	8.50	30,445.91	0.09%		0.76%	
Albemarle Corp	ALB	117.11	244.31	0.65	21.50	28,611.88	0.08%	0.05%	1.82%	
Fortinet Inc	FTNT	802.64	59.65	n/a	15.00	47,877.24	0.14%		2.12%	
Moderna Inc	MRNA	397.76	164.09	n/a	-2.50	65,268.44	0.19%		-0.48%	
Essex Property Trust Inc	ESS	65.12	286.53	3.07	-4.00	18,659.98	0.06%	0.17%	-0.22%	
Realty Income Corp	O	601.60	73.99	4.01	6.00	44,512.24	0.13%	0.53%	0.79%	
Westrock Co	WRK	254.85	42.36	2.36	20.00	10,795.53	0.03%	0.08%	0.64%	
Westinghouse Air Brake Technologies Corp	WAB	182.65	93.47	0.64	9.00	17,072.11	0.05%	0.03%	0.45%	
Pool Corp	POOL	39.59	357.70	1.12	14.00	14,161.70	0.04%	0.05%	0.59%	
Western Digital Corp	WDC	313.17	49.10	n/a	20.00	15,376.55	0.05%		0.91%	
PepsiCo Inc	PEP	1380.09	174.96	2.63	6.00	241,459.67	0.71%	1.88%	4.28%	
Diamondback Energy Inc	FANG	173.63	128.02	9.53		0.00	0.00%	0.00%		
ServiceNow Inc	NOW	202.00	446.66	n/a	45.50	90,225.32	0.27%		12.13%	
Church & Dwight Co Inc	CHD	242.91	87.97	1.19	6.00	21,368.70	0.06%	0.08%	0.38%	
Duke Realty Corp	DRE	384.82	62.56	1.79	-2.50	24,074.34	0.07%	0.13%	-0.18%	
Federal Realty OP LP	FRT	79.42	105.61	4.05	2.50	8,387.55	0.02%	0.10%	0.06%	
MGM Resorts International	MGM	426.05	32.73	0.03	25.00	13,944.68	0.04%	0.00%	1.03%	
American Electric Power Co Inc	AEP	513.73	98.56	3.17	6.50	50,633.62	0.15%	0.47%	0.97%	
SolarEdge Technologies Inc	SEDG	55.39	360.13	n/a	22.00	19,946.52	0.06%		1.30%	
PTC Inc	PTC	116.98	123.38	n/a	29.00	14,432.50	0.04%		1.24%	
JB Hunt Transport Services Inc	JBHT	103.81	183.27	0.87	11.50	19,025.81	0.06%	0.05%	0.65%	
Lam Research Corp	LRCX	136.98	500.51	1.20	21.50	68,557.36	0.20%	0.24%	4.36%	
Mohawk Industries Inc	MHK	63.53	128.48	n/a	10.50	8,162.85	0.02%		0.25%	
Pentair PLC	PNR	164.46	48.89	1.72	13.00	8,040.45	0.02%	0.04%	0.31%	
Vertex Pharmaceuticals Inc	VRTX	255.76	280.41	n/a	18.50	71,716.54	0.21%		3.92%	
Ancor PLC	AMCR	1502.77	12.95	3.71	15.00	19,460.83	0.06%	0.21%	0.86%	
Meta Platforms Inc	META	2280.67	159.10	n/a	16.00	362,854.92	1.07%		17.15%	
T-Mobile US Inc	TMUS	1254.04	143.06	n/a	9.50	179,403.11	0.53%		5.04%	
United Rentals Inc	URI	69.99	322.67	n/a	18.00	22,582.06	0.07%		1.20%	
ABIOMED Inc	ABMD	45.63	293.01	n/a	10.00	13,368.87	0.04%		0.40%	

Name	Ticker	Shares Outst'g	Price	Dividend Yield	Value Line			% of Total Market Cap.	Cap. Weighted Div. Yield	Cap. Weighted Long-Term Growth
					Long-Term Growth Estimate	Market Cap Excl. n/a Growth	Market Cap			
Honeywell International Inc	HON	673.69	192.46	2.04	11.00	129,658.76	0.38%	0.78%	4.21%	
Alexandria Real Estate Equities Inc	ARE	163.17	165.78	2.85	7.50	27,049.99	0.08%	0.23%	0.60%	
Delta Air Lines Inc	DAL	641.20	31.80	n/a		0.00	0.00%			
Seagate Technology Holdings PLC	STX	214.84	79.98	3.50		0.00	0.00%	0.00%		
United Airlines Holdings Inc	UAL	326.73	36.75	n/a	15.00	12,007.29	0.04%		0.53%	
News Corp	NWS	197.27	17.28	1.16		0.00	0.00%	0.00%		
Centene Corp	CNC	580.07	92.97	n/a	10.00	53,929.20	0.16%		1.59%	
Martin Marietta Materials Inc	MLM	62.37	352.08	0.69	5.50	21,960.64	0.06%	0.04%	0.36%	
Teradyne Inc	TER	160.20	100.89	0.44	8.50	16,162.88	0.05%	0.02%	0.41%	
PayPal Holdings Inc	PYPL	1158.04	86.53	n/a	12.00	100,205.20	0.30%		3.55%	
Tesla Inc	TSLA	1044.49	891.45	n/a	50.50	931,110.61	2.75%		138.93%	
DISH Network Corp	DISH	291.56	17.37	n/a	2.50	5,064.40	0.01%		0.04%	
Dow Inc	DOW	718.17	53.21	5.26	19.50	38,213.67	0.11%	0.59%	2.20%	
Penn National Gaming Inc	PENN	166.80	34.55	n/a	15.00	5,763.04	0.02%		0.26%	
Everest Re Group Ltd	RE	39.20	261.35	2.53	17.50	10,244.92	0.03%	0.08%	0.53%	
Teledyne Technologies Inc	TDY	46.84	391.40	n/a	11.50	18,334.35	0.05%		0.62%	
News Corp	NWSA	388.47	17.14	1.17		0.00	0.00%	0.00%		
Exelon Corp	EXC	980.14	46.49	2.90		0.00	0.00%	0.00%		
Global Payments Inc	GPN	281.54	122.32	0.82	17.00	34,437.97	0.10%	0.08%	1.73%	
Crown Castle International Corp	CCI	433.00	180.66	3.25	12.00	78,225.78	0.23%	0.75%	2.77%	
Aptiv PLC	APTV	270.93	104.89	n/a	27.50	28,417.95	0.08%		2.31%	
Advance Auto Parts Inc	AAP	60.64	193.62	3.10	16.00	11,741.12	0.03%	0.11%	0.56%	
Align Technology Inc	ALGN	78.81	280.97	n/a	17.00	22,142.12	0.07%		1.11%	
Illumina Inc	ILMN	157.10	216.68	n/a	6.50	34,040.43	0.10%		0.65%	
LKQ Corp	LKQ	276.60	54.84	1.82	13.00	15,168.74	0.04%	0.08%	0.58%	
Nielsen Holdings PLC	NLSN	359.83	23.95	1.00		0.00	0.00%	0.00%		
Zoetis Inc	ZTS	470.63	182.55	0.71	11.00	85,913.32	0.25%	0.18%	2.79%	
Equinix Inc	EQIX	91.08	703.74	1.76	-3.50	64,093.12	0.19%	0.33%	-0.66%	
Digital Realty Trust Inc	DLR	284.73	132.45	3.68	15.00	37,713.02	0.11%	0.41%	1.67%	
Las Vegas Sands Corp	LVS	764.16	37.69	n/a	11.00	28,801.04	0.09%		0.94%	
Molina Healthcare Inc	MOH	58.10	327.72	n/a	13.50	19,040.53	0.06%		0.76%	

Rebuttal Exhibit JMC-3.2

CAPM Analysis

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

$$K = R_f + \beta (R_m - R_f)$$

		[1]	[2]	[3]	[4]	[5]
Company	Ticker	Current 30-day average of 30-year U.S. Treasury bond yield	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)
Atmos Energy Corporation	ATO	3.16%	0.80	14.76%	11.60%	12.44%
New Jersey Resources Corporation	NJR	3.16%	0.95	14.76%	11.60%	14.18%
NiSource Inc.	NI	3.16%	0.85	14.76%	11.60%	13.02%
Northwest Natural Gas Company	NWN	3.16%	0.80	14.76%	11.60%	12.44%
ONE Gas, Inc.	OGS	3.16%	0.80	14.76%	11.60%	12.44%
Spire, Inc.	SR	3.16%	0.80	14.76%	11.60%	12.44%
Mean			0.83			12.83%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line, as of July 29, 2022

[3] Source: Average of Rebuttal Exhibit JMC-3.1 S&P 500 MRP 1, 2, & 3

[4] Equals [3] - [1]

[5] Equals [1] + [2] x [4]

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

$$K = R_f + \beta (R_m - R_f)$$

		[1]	[2]	[3]	[4]	[5]
Company	Ticker	Current 30-day average of 30-year U.S. Treasury bond yield	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)
Atmos Energy Corporation	ATO	3.16%	0.784	14.76%	11.60%	12.25%
New Jersey Resources Corporation	NJR	3.16%	0.835	14.76%	11.60%	12.85%
NiSource Inc.	NI	3.16%	0.836	14.76%	11.60%	12.86%
Northwest Natural Gas Company	NWN	3.16%	0.718	14.76%	11.60%	11.49%
ONE Gas, Inc.	OGS	3.16%	0.813	14.76%	11.60%	12.59%
Spire, Inc.	SR	3.16%	0.794	14.76%	11.60%	12.37%
Mean			0.797			12.40%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, 5-Year Betas as of July 29, 2022

[3] Source: Average of Rebuttal Exhibit JMC-3.1 S&P 500 MRP 1, 2, & 3

[4] Equals [3] - [1]

[5] Equals [1] + [2] x [4]

CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE & VL BETA
 $K = R_f + \beta (R_m - R_f)$

		[1]	[2]	[3]	[4]	[5]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2024 - 2028)	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)
Atmos Energy Corporation	ATO	3.80%	0.80	14.76%	10.96%	12.57%
New Jersey Resources Corporation	NJR	3.80%	0.95	14.76%	10.96%	14.21%
NiSource Inc.	NI	3.80%	0.85	14.76%	10.96%	13.12%
Northwest Natural Gas Company	NWN	3.80%	0.80	14.76%	10.96%	12.57%
ONE Gas, Inc.	OGS	3.80%	0.80	14.76%	10.96%	12.57%
Spire, Inc.	SR	3.80%	0.80	14.76%	10.96%	12.57%
Mean			0.83			12.93%

Notes:

[1] Source: Blue Chip Financial Forecasts, Vol. 41, No. 6, June 1, 2021, at 14

[2] Source: Value Line, as of July 29, 2022

[3] Source: Average of Rebuttal Exhibit JMC-3.1 S&P 500 MRP 1, 2, & 3

[4] Equals [3] - [1]

[5] Equals [1] + [2] x [4]

CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE & BLOOMBERG BETA
 $K = R_f + \beta (R_m - R_f)$

		[1]	[2]	[3]	[4]	[5]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2024 - 2028)	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)
Atmos Energy Corporation	ATO	3.80%	0.784	14.76%	10.96%	12.39%
New Jersey Resources Corporation	NJR	3.80%	0.835	14.76%	10.96%	12.95%
NiSource Inc.	NI	3.80%	0.836	14.76%	10.96%	12.97%
Northwest Natural Gas Company	NWN	3.80%	0.718	14.76%	10.96%	11.67%
ONE Gas, Inc.	OGS	3.80%	0.813	14.76%	10.96%	12.71%
Spire, Inc.	SR	3.80%	0.794	14.76%	10.96%	12.50%
Mean			0.797			12.53%

Notes:

[1] Source: Blue Chip Financial Forecasts, Vol. 41, No. 6, June 1, 2021, at 14

[2] Source: Bloomberg Professional, 5-Year Betas as of July 29, 2022

[3] Source: Average of Rebuttal Exhibit JMC-3.1 S&P 500 MRP 1, 2, & 3

[4] Equals [3] - [1]

[5] Equals [1] + [2] x [4]

Rebuttal Exhibit JMC-4

Risk Premium Analysis

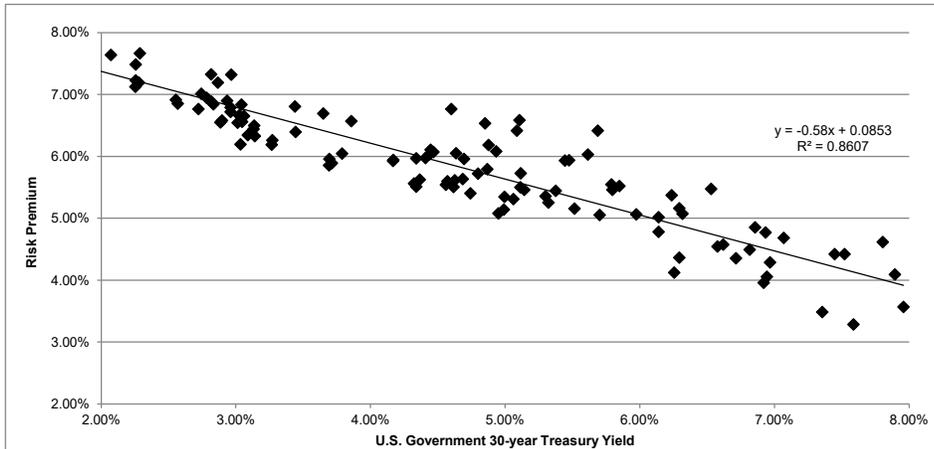
BOND YIELD PLUS RISK PREMIUM
NATURAL GAS UTILITIES

	[1]	[2]	[3]
	Average Authorized Gas ROE	U.S. Govt. 30-year Treasury	Risk Premium
1992.1	12.42%	7.80%	4.62%
1992.2	11.98%	7.89%	4.09%
1992.3	11.87%	7.45%	4.42%
1992.4	11.94%	7.52%	4.42%
1993.1	11.75%	7.07%	4.68%
1993.2	11.71%	6.86%	4.85%
1993.3	11.39%	6.31%	5.07%
1993.4	11.16%	6.14%	5.02%
1994.1	11.12%	6.57%	4.55%
1994.2	10.84%	7.35%	3.48%
1994.3	10.87%	7.58%	3.28%
1994.4	11.53%	7.96%	3.57%
1995.2	11.00%	6.94%	4.06%
1995.3	11.07%	6.71%	4.35%
1995.4	11.61%	6.23%	5.37%
1996.1	11.45%	6.29%	5.16%
1996.2	10.88%	6.92%	3.96%
1996.3	11.25%	6.96%	4.29%
1996.4	11.19%	6.62%	4.58%
1997.1	11.31%	6.81%	4.49%
1997.2	11.70%	6.93%	4.77%
1997.3	12.00%	6.53%	5.47%
1997.4	10.92%	6.14%	4.78%
1998.2	11.37%	5.85%	5.52%
1998.3	11.41%	5.47%	5.94%
1998.4	11.69%	5.10%	6.59%
1999.1	10.82%	5.37%	5.44%
1999.2	11.25%	5.79%	5.46%
1999.4	10.38%	6.25%	4.12%
2000.1	10.66%	6.29%	4.36%
2000.2	11.03%	5.97%	5.06%
2000.3	11.33%	5.79%	5.55%
2000.4	12.10%	5.69%	6.41%
2001.1	11.38%	5.44%	5.93%
2001.2	10.75%	5.70%	5.05%
2001.4	10.65%	5.30%	5.35%
2002.1	10.67%	5.51%	5.15%
2002.2	11.64%	5.61%	6.03%
2002.3	11.50%	5.08%	6.42%
2002.4	11.01%	4.93%	6.08%
2003.1	11.38%	4.85%	6.53%
2003.2	11.36%	4.60%	6.76%
2003.3	10.61%	5.11%	5.50%
2003.4	10.84%	5.11%	5.73%
2004.1	11.06%	4.88%	6.18%
2004.2	10.57%	5.32%	5.25%
2004.3	10.37%	5.06%	5.31%
2004.4	10.66%	4.86%	5.79%
2005.1	10.65%	4.69%	5.96%
2005.2	10.54%	4.47%	6.07%
2005.3	10.47%	4.44%	6.03%
2005.4	10.32%	4.68%	5.63%
2006.1	10.68%	4.63%	6.05%
2006.2	10.60%	5.14%	5.46%
2006.3	10.34%	4.99%	5.34%
2006.4	10.14%	4.74%	5.40%
2007.1	10.52%	4.80%	5.72%
2007.2	10.13%	4.99%	5.14%
2007.3	10.03%	4.95%	5.08%
2007.4	10.12%	4.61%	5.50%
2008.1	10.38%	4.41%	5.97%
2008.2	10.17%	4.57%	5.60%

BOND YIELD PLUS RISK PREMIUM
NATURAL GAS UTILITIES

	[1]	[2]	[3]
	Average Authorized Gas ROE	U.S. Govt. 30-year Treasury	Risk Premium
2008.3	10.55%	4.44%	6.11%
2008.4	10.34%	3.65%	6.69%
2009.1	10.24%	3.44%	6.81%
2009.2	10.11%	4.17%	5.94%
2009.3	9.88%	4.32%	5.56%
2009.4	10.31%	4.34%	5.97%
2010.1	10.24%	4.62%	5.61%
2010.2	9.99%	4.36%	5.62%
2010.3	10.43%	3.86%	6.57%
2010.4	10.09%	4.17%	5.93%
2011.1	10.10%	4.56%	5.54%
2011.2	9.85%	4.34%	5.51%
2011.3	9.65%	3.69%	5.96%
2011.4	9.88%	3.04%	6.84%
2012.1	9.63%	3.14%	6.50%
2012.2	9.83%	2.93%	6.90%
2012.3	9.75%	2.74%	7.01%
2012.4	10.06%	2.86%	7.19%
2013.1	9.57%	3.13%	6.44%
2013.2	9.47%	3.14%	6.33%
2013.3	9.60%	3.71%	5.89%
2013.4	9.83%	3.79%	6.04%
2014.1	9.54%	3.69%	5.85%
2014.2	9.84%	3.44%	6.39%
2014.3	9.45%	3.26%	6.19%
2014.4	10.28%	2.96%	7.32%
2015.1	9.47%	2.55%	6.91%
2015.2	9.43%	2.88%	6.55%
2015.3	9.75%	2.96%	6.79%
2015.4	9.68%	2.96%	6.72%
2016.1	9.48%	2.72%	6.76%
2016.2	9.42%	2.57%	6.85%
2016.3	9.47%	2.28%	7.19%
2016.4	9.67%	2.83%	6.84%
2017.1	9.60%	3.04%	6.56%
2017.2	9.47%	2.90%	6.58%
2017.3	10.14%	2.82%	7.32%
2017.4	9.70%	2.82%	6.88%
2018.1	9.68%	3.02%	6.66%
2018.2	9.43%	3.09%	6.34%
2018.3	9.71%	3.06%	6.65%
2018.4	9.53%	3.27%	6.26%
2019.1	9.55%	3.01%	6.54%
2019.2	9.73%	2.78%	6.94%
2019.3	9.95%	2.29%	7.66%
2019.4	9.74%	2.25%	7.48%
2020.1	9.35%	1.89%	7.46%
2020.2	9.55%	1.38%	8.17%
2020.3	9.52%	1.37%	8.15%
2020.4	9.50%	1.62%	7.88%
2021.1	9.71%	2.07%	7.64%
2021.2	9.48%	2.25%	7.22%
2021.3	9.43%	1.93%	7.50%
2021.4	9.59%	1.94%	7.65%
2022.1	9.38%	2.25%	7.12%
2022.2	9.23%	3.03%	6.19%
AVERAGE	10.43%	4.51%	5.92%
MEDIAN	10.33%	4.58%	5.96%

BOND YIELD PLUS RISK PREMIUM
NATURAL GAS UTILITIES



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.92771
R Square	0.86065
Adjusted R Square	0.85945
Standard Error	0.00388
Observations	118

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.0108	0.0108	716.4438	0.0000
Residual	116	0.0017	0.0000		
Total	117	0.0126			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.0853	0.00104	81.97595	0.00000	0.08325	0.08737	0.08325	0.08737
X Variable 1	-0.5800	0.02167	-26.76647	0.00000	-0.62289	-0.53706	-0.62289	-0.53706

	[7]	[8]	[9]
	U.S. Govt. 30-year Treasury	Risk Premium	ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	3.16%	6.70%	9.86%
Blue Chip Near-Term Projected Forecast (Q4 2022 - Q4 2023) [5]	3.48%	6.51%	9.99%
Blue Chip Long-Term Projected Forecast (2024-2028) [6]	3.80%	6.33%	10.13%
AVERAGE			9.99%

Notes:

- [1] Source: Regulatory Research Associates, rate cases through July 29, 2022
- [2] Source: Bloomberg Professional, quarterly bond yields are the average of each trading day in the quarter
- [3] Equals Column [1] - Column [2]
- [4] Source: Bloomberg Professional
- [5] Source: Blue Chip Financial Forecasts, Vol. 41, No. 8, August 1, 2022 at 2
- [6] Source: Blue Chip Financial Forecasts, Vol. 41, No. 6, June 1, 2022 at 14
- [7] See notes [4] & [5]
- [8] Equals $0.085314 + (-0.579973 \times \text{Column [6]})$
- [9] Equals Column [6] + Column [7]

Rebuttal Exhibit JMC-5

Expected Earnings Analysis

EXPECTED EARNINGS ANALYSIS

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	
Company	Ticker	Value Line ROE 2025-2027	Value Line Total Capital 2021	Value Line Common Equity Ratio 2021	Total Equity 2021	Value Line Total Capital 2025-2027	Value Line Common Equity Ratio 2025-2027	Total Equity 2025-2027	Compound Annual Growth Rate	Adjustment Factor	Adjusted Return on Common Equity
Atmos Energy Corporation	ATO	9.00%	12,837	61.60%	7,908	21,400	60.00%	12,840	10.18%	1.048	9.44%
New Jersey Resources Corporation	NJR	12.00%	3,793	43.00%	1,631	5,310	43.50%	2,310	7.21%	1.035	12.42%
NiSource Inc.	NI	11.50%	16,131	33.50%	5,404	18,225	39.50%	7,199	5.90%	1.029	11.83%
Northwest Natural Gas Company	NWN	9.50%	1,980	47.20%	934	2,290	52.00%	1,191	4.97%	1.024	9.73%
ONE Gas, Inc.	OGS	7.50%	6,033	39.00%	2,353	8,500	48.00%	4,080	11.64%	1.055	7.91%
Spire, Inc.	SR	8.00%	5,597	43.20%	2,418	8,200	45.00%	3,690	8.82%	1.042	8.34%
Mean											9.94%
Median											9.58%

Notes:

[1] Source: Value Line

[2] Source: Value Line

[3] Source: Value Line

[4] Equals [2] x [3]

[5] Source: Value Line

[6] Source: Value Line

[7] Equals [5] x [6]

[8] Equals $([7] / [4])^{(1/5)} - 1$

[9] Equals $2 \times (1 + [8]) / (2 + [8])$

[10] Equals [1] x [9]

Rebuttal Exhibit JMC-6

**Dr. Woolridge's Replicated DCF Analysis Applying
Estimated EPS Growth Estimates**

DR. WOOLRIDGE DCF ANALYSIS BASED ON ANALYSTS' PROJECTED EPS GROWTH RATES

Woolridge Gas Proxy Group

		Analysts' Projected EPS growth rates				
Company		Yahoo	Zacks	S&P	Value Line	
Atmos Energy Company (NYSE-ATO)	CMS	8.6%	7.3%	7.4%	7.5%	
Chesapeake Utilities (NYSE-CPK)	ED	7.0%	NA	9.0%	7.5%	
New Jersey Resources Corp. (NYSE-NJR)	D	6.0%	6.0%	6.7%	5.0%	
NiSource Inc (NYSE-NI)	DUK	7.2%	7.1%	6.9%	9.5%	
Northwest Natural Gas Co. (NYSE-NWN)	EIX	4.6%	4.7%	4.7%	6.5%	
ONE Gas, Inc. (NYSE-OGS)	ETR	5.0%	5.0%	6.0%	6.5%	
South Jersey Industries, Inc. (NYSE-SJI)	EVRG	5.2%	NA	5.7%	10.5%	
Southwest Gas Company (NYSE-SWX)	ES	4.0%	5.0%	4.8%	10.0%	
Spire (NYSE-SR)	HE	4.3%	5.0%	4.7%	9.0%	
Mean		5.77%	5.73%	6.21%	8.00%	Average 6.43%

Source: Exhibit JRW-5, pages 4, 5

Woolridge Gas Proxy Group

Dividend Yield*		2.90%
	Adjustment Factor	<u>1.032132937</u>
Adjusted Dividend Yield		2.99%
Growth Rate		6.43%
Equity Cost Rate		9.42%

* Page 1 of Exhibit JRW-5