

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF NORTHERN INDIANA PUBLIC )  
SERVICE COMPANY LLC PURSUANT TO IND. CODE )  
§§ 8-1-242.7, 8-1-2-61 AND 8-1-2.5-6 FOR (1) )  
AUTHORITY TO MODIFY ITS RETAIL RATES AND )  
CHARGES FOR ELECTRIC UTILITY SERVICE )  
THROUGH A PHASE IN OF RATES; (2) APPROVAL )  
OF NEW SCHEDULES OF RATES AND CHARGES, )  
GENERAL RULES AND REGULATIONS, AND RIDERS )  
(BOTH EXISTING AND NEW); (3) APPROVAL OF )  
REVISED COMMON AND ELECTRIC )  
DEPRECIATION RATES APPLICABLE TO ITS ) CAUSE NO. 46120  
ELECTRIC PLANT IN SERVICE; (4) APPROVAL OF )  
NECESSARY AND APPROPRIATE ACCOUNTING )  
RELIEF, INCLUDING, BUT LIMITED TO, )  
AUTHORITY TO CAPITALIZE AS RATE BASE ALL )  
EXPENDITURES FOR IMPROVEMENTS TO )  
PETITIONER'S INFORMATION TECHNOLOGY )  
SYSTEMS THROUGH THE DESIGN, DEVELOPMENT, )  
AND IMPLEMENTATION OF A WORK AND ASSET )  
MANAGEMENT ("WAM") PROGRAM, TO THE )  
EXTENT NECESSARY; AND (5) APPROVAL OF )  
ALTERNATIVE REGULATORY PLANS FOR THE )  
PARTIAL WAIVER OF 170 IAC 4-1-16(f) AND )  
PROPOSED REMOTE DISCONNECTION AND )  
RECONNECTION PROCESS AND, TO THE EXTENT )  
NECESSARY, IMPLEMENTATION OF A LOW )  
INCOME PROGRAM. )

**INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR**  
**PUBLIC'S EXHIBIT NO. 9**  
**TESTIMONY OF OUCC WITNESS**  
**LEJA D. COURTER**

Respectfully submitted,

INDIANA OFFICE OF UTILITY CONSUMER  
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**NORTHERN INDIANA PUBLIC SERVICE COMPANY LLC  
CAUSE NO. 46120  
TESTIMONY OF OUCC WITNESS LEJA D. COURTER**

**I. INTRODUCTION**

1 **Q: Please state your name and business address.**

2 A: My name is Leja D. Courter. My business address is 115 West Washington Street,  
3 Suite 1500 South, Indianapolis, Indiana 46204.

4 **Q: By whom are you employed and in what capacity?**

5 A: I am employed by the Indiana Office of Utility Consumer Counselor (“OUCC”) as  
6 a Chief Technical Advisor. For a summary of my educational and professional  
7 experience, as well as my preparation for presenting testimony in this case, please  
8 see Appendix LDC-1 attached to my testimony. Appendix LDC-1 also includes the  
9 Discounted Cash Flow (“DCF”) Model and Capital Asset Pricing Model  
10 (“CAPM”) mechanics.

11 **Q: What is the purpose of your testimony?**

12 A: The purpose of my testimony is to discuss the cost of equity (“COE”) and capital  
13 structure Northern Indiana Public Service Company LLC (“NIPSCO” or  
14 “Petitioner”) proposes. My testimony addresses the OUCC’s recommended COE  
15 and capital structure. I also explain why Petitioner’s recommended 10.6% COE is  
16 unreasonable.

17 **Q: Do you have attachments to your testimony?**

18 A: Yes, I have the following attachments to my testimony:

- 19
- Attachment LDC-1: NIPSCO Capital Structure

- 1 • Attachment LDC-2: *Value Line* reports
- 2 • Attachment LDC-3: DCF – Electric and Gas Groups
- 3 • Attachment LDC-4: CAPM – Electric and Gas Groups
- 4 • Attachment LDC-5: Congressional Budget Office (“CBO”) Long-Term
- 5 Outlook: 2024-2054
- 6 • Attachment LDC-6: Daily U.S. Treasury Rates
- 7 • Attachment LDC-7: Federal Reserve Press Release 11/07/2024
- 8 • Attachment LDC-8: Federal Reserve Chairman Powell Remarks
- 9 11/14/2024
- 10 • Attachment LDC-9: CAPM Kroll Equity Risk Premium
- 11 • Attachment LDC-10: CAPM IESE Equity Risk Premium
- 12 • Attachment LDC-11: NIPSCO’s Responses to OUCC Data Requests

13 **Q: If your testimony does not address a specific topic, issue, or item, should it be**  
14 **construed to mean you agree with Petitioner’s proposal?**

15 A: No. My silence on any issue should not be construed as an endorsement. Also, my  
16 silence in response to any actions or adjustments stated or implied by Petitioner  
17 should not be construed as an endorsement.

18 **Q: Do you have recommendations in this Cause?**

19 A: Yes. I recommend:

- 20 • A 9.0% COE be approved.
- 21 • A May 31, 2025, capital structure updated to actual amounts in
- 22 NIPSCO’s Step 1 filing, subject to a 60-day review period for the
- 23 OUCC and Intervenors.
- 24 • A December 31, 2025, capital structure updated to actual amounts
- 25 in NIPSCO’s Step 2 filing, subject to a 60-day review period for the
- 26 OUCC and Intervenors.

27 **Q: Please summarize your COE testimony.**

28 I recommend a COE of 9.0% based on my analysis of Petitioner’s estimated  
29 COE. I use both a DCF and a CAPM analysis to estimate Petitioner's COE. My

1 DCF model produced a 7.4% to 9.4% COE range for the Electric group and a  
2 7.7% to 9.6% COE range for the Gas group. My CAPM analysis produced an  
3 8.8% COE for the Electric group and an 8.8% COE for the Gas group. Using  
4 Petitioner's proposed May 31, 2025, capital structure, a 9.0% cost of common  
5 equity results in a weighted average cost of capital ("WACC") of 6.68%.  
6 (Attachment LDC-1, page 1.)

## II. PETITIONER'S PROPOSED COST OF EQUITY

7 **Q: What is Petitioner's current authorized COE?**

8 A: NIPSCO's current authorized COE is 9.80% as a result of a settlement  
9 agreement the Indiana Utility Regulatory Commission ("Commission")  
10 approved in Cause No. 45772. *In re NIPSCO*, Cause No. 45772, Final Order, page  
11 36 (Ind. Util. Regul. Comm'n Aug. 2, 2023).

12 **Q: What is NIPSCO's proposed COE?**

13 A: Petitioner requests a 10.60% COE. (Petitioner's Exhibit No. 13, page 6, line 1.)  
14 The 10.6% COE was recommended "to mitigate the increase in customer  
15 rates." (*Id.*, line 2.)

16 **Q: Why does your proposed COE differ from Petitioner's proposed COE?**

17 A: My estimate of Petitioner's COE is 160 basis points less than Petitioner's  
18 estimated COE. My DCF and CAPM analyses do not yield returns as high as  
19 Petitioner's proposed 10.60% COE, or even as high as Petitioner's current 9.8%  
20 COE. Data on Treasury bond yields, dividend yields, inflation, and economic  
21 growth does not support double-digit rates of return projections. Moreover,  
22 regulated public utilities tend to be less risky than the market as a whole.

1 **Q: Does Petitioner obtain capital financing under its own name or through its**  
2 **parent holding company, NiSource?**

3 A: Petitioner obtains its capital financing through NiSource.

4 **Q: Will your recommendation allow NIPSCO access to capital on reasonable**  
5 **terms?**

6 A: Yes. NiSource owns 80.1% of NIPSCO's common stock. A Blackstone  
7 Infrastructure affiliate owns the remaining 19.9%. NIPSCO is an Indiana  
8 corporation and a wholly owned subsidiary of NiSource. NiSource is a holding  
9 company, and its stock is publicly traded and listed on the New York Stock  
10 Exchange.

11 *Value Line* grades NiSource's financial strength rating as A.  
12 (Attachment LDC-2, page 12.) *Value Line's* financial strength ratings range  
13 from A++ to C. *Value Line's* financial strength ratings consider balance sheet  
14 leverage, business risk, the level and direction of profits, cash flow, earned returns,  
15 cash, corporate size, and stock price. All those factors contribute to a company's  
16 relative position on the scale. The amount of cash on hand, net of debt, is also an  
17 important consideration. I reviewed the *Value Line* financial strength ratings for the  
18 utilities in Petitioner's Electric and Gas groups. *Value Line* gives AEP, Atmos, New  
19 Jersey Resources, and Northwest Natural a financial strength rating of A. Alliant,  
20 Ameren, Entergy, and WEC are rated A+. CMS, Evergy, MGE, OGE, ONE Gas,  
21 Inc., and Spire have B++ financial strength ratings. (Attachment LDC-2, pages 1-  
22 15.) Based on this information, my recommendation will allow NIPSCO to access  
23 capital on reasonable terms.

1 **Q: Why is a 9.0% COE reasonable?**

2 A: My DCF model indicates a 7.4% to 9.4% COE range, with an 8.4% midpoint,  
3 for the Electric group. (Attachment LDC-3, page 1.) My DCF model indicates  
4 a 7.7% to 9.6% COE range, with an 8.6% midpoint, for the Gas group. (*Id.*) My  
5 CAPM analysis results in an 8.8% COE for the Electric group and 8.8% for the  
6 Gas group. (Attachment LDC-4, page 1.) My 9.0% recommendation is above  
7 the midpoints of my DCF analysis for the Electric and Gas groups and is higher  
8 than my CAPM results for both the Electric and Gas groups.

9 In my DCF analysis I use analysts' projected earnings per share ("EPS")  
10 growth rates from *Value Line*, Yahoo Finance, and Zacks for the Electric and  
11 Gas groups. (Attachment LDC-3, page 5.) I considered long-term growth rates  
12 in the U.S. economy to produce a reasonable growth rate for Petitioner.  
13 Economic and financial trends do not justify a higher COE.

14 My review of 10-year, 20-year, and 30-year maturity Treasury bonds  
15 produces a CAPM risk-free rate between 4.01% to 4.36% (Attachment LDC-4,  
16 page 2.) I used the 4.30% 30-year Treasury bond rate as the risk-free rate  
17 because it was the longest term Treasury bond rate available. (*Id.*) Long-term  
18 Treasury bonds have an investment horizon similar to common stock.  
19 Therefore, long-term inflation expectations are reflected in long-term Treasury  
20 bond yields and the returns required by common stock investors. The 30-year  
21 Treasury bond rate also corresponds to the CBO's 30-year budget outlook.  
22 (Attachment LDC-5.)

1 I reviewed three sources to determine the Equity Risk Premium  
2 (“ERP”). The average of the three sources results in an ERP of 5.0%. (*Id.*, page  
3 4.) I used *Value Line* betas to determine the average betas for the Electric and  
4 Gas groups. (*Id.*, page 3.)

### III. MACROECONOMIC TRENDS

5 **Q: Do macroeconomic factors and trends influence the COE?**

6 A: Yes. The most noteworthy of these factors are interest rates, economic growth, and  
7 inflation.

8 **Q: How do inflation and interest rates influence the estimated COE?**

9 A: Anticipated inflation influences interest rates. Interest rates influence the COE.  
10 Interest rates have been decreasing recently and forecasted inflation is expected to  
11 remain stable over the short-term. The CBO's Long-Term Budget Outlook: 2024  
12 to 2054, forecasts increases in the nominal Gross Domestic Product (“GDP”) index  
13 of 4.0% for 2024-2034, 3.7% for 2035-2044, and 3.6% for 2045-2054. (Attachment  
14 LDC-5, page 15, Table 3-1.) In the CBO's projections, inflation slows through 2026  
15 to a rate that is consistent with the Federal Reserve's long-term goal of 2%. (*Id.*,  
16 page 12.)

17 **Q: Please discuss Treasury bond yields as a factor that influences the COE.**

18 A: Treasury bond yields also influence the COE. Yields on Treasury Bonds are  
19 commonly used to establish the risk-free rate of return in CAPM and other risk  
20 premium analyses. Changes in Treasury bond yields and interest rates affect  
21 investor expectations. Long-term 30-year Treasury bond yields were as high this  
22 year as 4.82% on April 25, 2024, and as low as 3.94% on September 16, 2024.  
23 (Attachment LDC-6, page 1.) For the 30-business day period from September 19

1 to October 31, 2024, the average 30-year Treasury bond yield was 4.30%.

2 (Attachment LDC-4, page 2.)

3 **Q: What rate of inflation does the Federal Reserve seek to be consistent with its**  
4 **monetary policy?**

5 A: The Federal Reserve “seeks to achieve maximum employment and inflation at the  
6 rate of 2 percent over the longer run.” (Attachment LDC-7, page 1.)

7 **Q: Is the Federal Reserve committed to maintaining inflation at 2 percent?**

8 A: Yes. Federal Reserve Chair Jerome Powell stated on November 14, 2024:

9 Inflation is running much closer to our 2 percent longer-run goal,  
10 but it is not there yet. We are committed to finishing the job. With  
11 labor market conditions in rough balance and inflation expectations  
12 well anchored, I expect inflation to continue to come down toward  
13 our 2 percent objective, albeit on a sometimes-bumpy path.

14 (Attachment LDC-8, page 4.)

15 **Q: What conclusions have you reached regarding the macroeconomic trends that**  
16 **influence COE?**

17 A: The Federal Reserve is committed to maintaining long-run inflation at 2 percent.  
18 Interest rates are trending downward. Economic growth projections do not suggest  
19 a return to an inflationary economy. Consequently, my recommended COE of 9.0%  
20 is in line with current economic conditions.

#### IV. PROXY GROUPS USED FOR THE OUCC'S COE ANALYSES

21 **Q: Please describe how you derived the proxy groups for your DCF and CAPM**  
22 **studies.**

23 A: My Electric and Gas proxy groups are comprised of the same companies as  
24 NIPSCO's Electric and Gas proxy groups. Petitioner's testimony describes the  
25 Electric and Gas groups' selection criteria. (Petitioner's Exhibit No. 13, page 29,  
26 line 3 – page 30, line 7; page 38, line 12 - page 39, line 15.)



1 **Q: NIPSCO also used a third proxy group named the Non-Regulated group. Did**  
2 **you use the Non-Regulated group in your analysis?**

3 A: No. Petitioner's Non-Regulated group comprises ten publicly traded companies,  
4 including Coca-Cola, Home Depot Inc., McCormick & Co., McDonald's, and  
5 Republic Services, Inc. (*Id.*, Attachment 13-A, Schedule 6, page 1.) These  
6 companies, and the remaining companies in Petitioner's Non-Regulated group, face  
7 markedly different risks than Petitioner and the companies in the two regulated  
8 utility proxy groups. The utility industry, as evidenced by the Electric group beta  
9 of 0.91 and the Gas group beta of 0.89, has relatively low risk compared to the  
10 market. NIPSCO's Non-Regulated group produces overstated COE results, which  
11 the Commission should not consider.

12 **Q: Please describe your approach to estimating Petitioner's COE.**

13 A: I relied on the DCF model and CAPM to estimate Petitioner's COE.

14 **Q: Can you apply the DCF model and CAPM directly to Petitioner?**

15 A: No. NIPSCO's stock is not publicly traded. As a result, much of the data available  
16 for publicly traded companies is not available for Petitioner. This makes it  
17 impractical to apply the DCF and CAPM directly to NIPSCO; therefore, I  
18 calculated Petitioner's COE based on the Electric and Gas proxy groups of publicly  
19 traded companies.

## V. DCF ANALYSIS

20 **Q: Please describe the DCF analysis.**

21 A: The DCF analysis helps investors determine the appropriate price to pay for  
22 particular assets, such as utility stocks. The model has been adapted for regulatory  
23 proceedings to determine the cost of utility equity capital. The DCF model

1 maintains that the value (price) of any security or commodity is the discounted  
2 present value of all future cash flows. This discount rate equals the cost of capital.  
3 With utility stocks, dividends are the relevant cash flows. A detailed description of  
4 the DCF mechanics is included in Appendix LDC-1.

5 **Q: What are the major components of the DCF model?**

6 A: The major components of the DCF model are the dividend yield and the growth  
7 rate.

8 **Q: How did you determine the dividend yield?**

9 A: The dividend yield is calculated by dividing the annual dividend by the stock price.

10 **Q: How did you derive the annual dividend?**

11 A: I multiplied the most recent quarterly dividends reported by *Value Line* times 4 to  
12 derive annual dividends for each of the companies in the proxy groups. (Attachment  
13 LDC-3, page 2.)

14 **Q: How did you determine the stock prices you used as the denominator in the**  
15 **dividend yield calculation?**

16 A: I used 30-day averages of the daily stock prices for each of the companies in the  
17 proxy groups. (*Id.*, page 3.)

18 **Q: Why did you use a 30-day average of the daily stock prices?**

19 A: The stock market reflects the relevant information available at a particular time.  
20 Stock prices adjust based on new information. Therefore, past stock prices reflect  
21 outdated information; consequently, instead of using the stock price for a single  
22 day, I used a 30-day average of the daily stock prices to avoid the irregularities and  
23 arbitrariness of using a single day's stock price.

24 **Q: What is the result of your dividend yield calculations for the Gas and Electric**  
25 **groups?**

1 A: My calculations result in a 3.7% dividend yield for the Gas group and 3.4% for the  
2 Electric group. (*Id.*, page 2.)

3 **Q: What are the results of your DCF analysis?**

4 A: The average dividend yield for the Gas group is 3.7%. I added the dividend yield  
5 to the sustainable growth rate of 4.0%. The sustainable growth result is 7.7%. (*Id.*,  
6 page 1.) I also calculated a DCF result using the dividend yield of 3.7% and added  
7 the analysts' EPS growth average of 5.9%. The analysts' growth result is 9.6%.  
8 (*Id.*)

9 The average dividend yield for the Electric group is 3.4%. The sustainable  
10 growth rate is 4.0%, and the sustainable growth result is 7.4%. (*Id.*) The DCF result  
11 for the analysts' EPS growth of 9.4% is based on a dividend yield of 3.4% and an  
12 average growth rate of 6.0%. (*Id.*) Therefore, the range of my DCF results are 7.7%  
13 to 9.6% for the Gas group, and 7.4% to 9.4% for the Electric group.

## VI. CAPITAL ASSET PRICING MODEL

14 **Q: Please describe the CAPM.**

15 A: The CAPM is another analysis frequently relied upon by Indiana's Commission to  
16 help determine a reasonable cost of utility equity capital. The CAPM's underlying  
17 assumption is that the stock market compensates investors for risk that cannot be  
18 eliminated by means of a diversified stock portfolio. A detailed description of the  
19 CAPM mechanics is included in Appendix LDC-1.

20 **Q: What are the major components of the CAPM?**

21 A: The major components of the CAPM are the risk-free rate, beta, and the ERP.

1 **Q: How did you determine the risk-free rate?**

2 A: Long-term U.S. Treasury bonds are commonly used to represent the risk-free rate  
3 because there is almost no risk of default. I reviewed 30 business days of daily bond  
4 yields from September 19 to October 31, 2024, for 10-year, 20-year, and 30-year  
5 Treasury bonds. (Attachment LDC-4, page 2.) The average yield for 10-year bonds  
6 was 4.01%. The average yield for 20-year bonds was 4.36%. The average yield for  
7 30-year bonds was 4.30%. The average yield for the three bonds is 4.22%. (*Id.*) As  
8 mentioned above, I used the 30-year Treasury bond yield of 4.30% as the risk-free  
9 rate because it was the longest term Treasury bond rate available, and the 30-  
10 year bond corresponds to the CBO's 30-year budget outlook. Also, long-term  
11 inflation expectations are reflected in long-term Treasury bond yields and the  
12 returns required by common stock investors.

13 **Q: How did you determine the beta?**

14 A: *Value Line* lists the betas for the companies in both the Electric and Gas proxy  
15 groups. (Attachment LDC-2, pages 1-15.) The average beta for the Gas group is  
16 0.89. The average beta for the Electric group is 0.91. (Attachment LDC-4, page 3.)  
17 The stock market as a whole has a beta of 1.00, which means some companies are  
18 less risky than the market, and some companies are more risky than the market.  
19 Companies with betas less than 1.00 are less risky than the market. Since the  
20 average betas for both proxy groups are less than 1.00, the Gas and Electric groups  
21 are less risky than the market.

22 **Q: How did you determine the ERP?**

23 A: I reviewed three sources to determine the ERP. Kroll provides an ERP of 5.0%.  
24 (Attachment LDC-9, pages 1, 5.) Dr. Aswath Damodaran, from the New York

1 University Stern School of Business, publishes ERPs on an annual basis. Dr.  
2 Damodaran's ERPs can be found at this link:

3 [https://pages.stern.nyu.edu/~adamodar/New\\_Home\\_Page/datafile/histimpl.html](https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/histimpl.html).

4 Dr. Damodaran updates the ERP each year in January. His most recent ERP is  
5 4.6%. My third ERP source was a Market Risk Premium and Risk-Free Rate survey  
6 by the IESE Business School ("IESE"). (Attachment LDC-10.) The IESE survey  
7 provides ERPs, also called Market Risk Premiums, for 96 countries. The IESE ERP  
8 for the USA is 5.5%. (*Id.*, page 3.) The average of the three ERP sources is 5.0%.  
9 (Attachment LDC-4, page 4.)

10 **Q: Please describe the results of your CAPM analysis.**

11 A: For the Gas group, I used the average 30-year Treasury bond yield of 4.3% for the  
12 risk-free rate, a beta of 0.89, and an ERP of 5.0%. The result for the Gas group is a  
13 COE of 8.8%. (Attachment LDC-4, page 1.)

14 For the Electric group, I used the same risk-free rate of 4.3%, a beta of 0.91,  
15 and an ERP of 5.0%. The result for the Electric group also is an 8.8% COE. (*Id.*)

## VII. SUMMARY OF OUCC'S ESTIMATED COE

16 **Q: Please summarize the OUCC's estimated COE.**

17 A: I developed two DCF models for the Electric group and two DCF models for the  
18 Gas group. The range of the Electric group's DCF models is 7.4% to 9.4%, and a  
19 midpoint of 8.4%. The range of the Gas group's DCF models is 7.7% to 9.6%, and  
20 a midpoint of 8.6%. (Attachment LDC-3, page 1.) I developed a CAPM analysis  
21 for the Electric and Gas groups. The CAPM COE for the Electric group is 8.8%,  
22 and 8.8% as well for the Gas group. (Attachment LDC-4, page 1.)

1 **Q: Do you have any company-specific information that supports the**  
2 **reasonableness of your proposed COE?**

3 A: Yes. In conducting discovery, the OUCC requested the following information from  
4 NIPSCO:

5 For the portion of Petitioner's pension funds that are invested in  
6 equities, please provide the rate of return NiSource and NIPSCO  
7 assume the pension funds will return.

8 (Attachment LDC-11, page 1; NIPSCO's response to OUCC DR 2-  
9 032.)

10 NIPSCO's response indicates NiSource's actuary assumed NiSource's pension  
11 funds will earn a return of 9.69% on Large Cap U.S. equities. NiSource's  
12 investment consultant assumed NiSource's pension funds will earn a return of  
13 9.25% on Large Cap U.S. equities. (*Id.*)

14 **Q: What information did NiSource's actuary and investment consultant analyze**  
15 **when making the estimated equity returns?**

16 A: NIPSCO's response states: "These returns utilize historical and forward-looking  
17 relationships between *inflation, interest rates, GDP growth, valuations and equity*  
18 *return premiums.*" (*Id.*, emphasis added.)

19 **Q: Did the OUCC ask a similar question regarding NIPSCO's other post-**  
20 **employment benefits ("OPEB") funds?**

21 A: Yes, and NiSource's actuary and investment consultant responses were identical  
22 for the OPEB returns. (*Id.*, page 2.)

23 **Q: Is NiSource a large market capitalization ("Cap") company?**

24 A: Yes. NiSource has a market capitalization of \$14.1 billion. (Attachment LDC-2,  
25 page 12.) The companies in the Electric group are large Cap companies with an  
26 average market capitalization of \$18.7 billion. (Petitioner's Exhibit No. 13, page  
27 76, line 13.)

1 **Q: Has NIPSCO indicated whether equity analysts' opinions should be**  
2 **considered when estimating earnings growth?**

3 A: Yes. NIPSCO stated: "It is well-established in the finance literature that *investors*  
4 *place great emphasis on the earnings growth estimates of equity analysts* in  
5 deriving their growth and return expectations for common stock." (Petitioner's  
6 Exhibit No. 13, page 61, lines 3-5, emphasis added.)

7 **Q: What conclusions did you reach after reviewing NIPSCO's responses to these**  
8 **discovery questions?**

9 A: NiSource's investment consultant's estimated return of 9.25% is within the  
10 reasonable range of my DCF results. NiSource's actuary's estimated return of  
11 9.69% is only 9 basis points outside of my DCF results.

12 NiSource's actuary and investment consultant's estimated returns are higher  
13 than my recommended cost of equity of 9.0%. However, NiSource's actuary's and  
14 investment consultant's estimated returns are also from 91 (10.6% - 9.69%) to 135  
15 (10.6% - 9.25%) basis points *lower* than NIPSCO's recommended 10.6% COE.

### VIII. NIPSCO'S COE ANALYSIS

16 **Q: Please summarize NIPSCO's COE analysis.**

17 A: NIPSCO's estimated COE is 10.60%. (Petitioner's Exhibit No. 13, page 6, line 1.)  
18 Petitioner's analysis uses a DCF model, a CAPM model, a CAPM with size  
19 adjustment, an Empirical CAPM ("ECAPM") model, and a Risk Premium model.  
20 Petitioner applies each of its models to the Electric, Gas, and Non-Regulated  
21 groups. (*Id.*, page 7, lines 4-10.)

22 **Q: Do you agree with using all the models Petitioner uses to determine its COE?**

1 A: No. I agree with the use of the DCF and CAPM models without NIPSCO's  
2 proposed adjustments to those models. I do not agree with the CAPM with size  
3 adjustment, ECAPM, and Risk Premium models.

4 **Q: Why don't you agree with using the last three models?**

5 A: As explained later in my testimony, these models produce over-estimated costs of  
6 equity, and therefore should not be used to determine NIPSCO's reasonable COE.

### IX. PETITIONER'S DCF ANALYSIS

7 **Q: Please summarize NIPSCO's DCF analysis.**

8 A: NIPSCO's DCF analysis for the Electric group includes forecasted earnings from  
9 Yahoo Finance, Zacks, and *Value Line* with a DCF result of 10.25%. (Petitioner's  
10 Exhibit 13, page 61, Table 6.) Petitioner then adds a flotation cost adjustment of 8  
11 basis points and a Market Value-Book Value adjustment of 10 basis points to derive  
12 a new estimated COE of 10.43%. (*Id.*)

13 NIPSCO's DCF analysis for the Gas group includes forecasted earnings  
14 from Yahoo Finance, Zacks, and *Value Line* with a DCF result of 10.0%. (*Id.*, page  
15 63, Table 7.) Petitioner again adds a flotation cost adjustment of 8 basis points and  
16 a Market Value-Book Value adjustment of 3 basis points to derive a new COE of  
17 10.11%. (*Id.*)

18 **Q: Do you agree with Petitioner's DCF analyses?**

19 A: No. Part of the difference in our DCF results is due to how and when the dividend  
20 yields were calculated. The calculation of the annual dividends is similar for the  
21 Electric and Gas groups. (*See* Attachment LDC-3, page 2; Petitioner's Exhibit No.  
22 13, Attachment 13-A, Schedule 4, page 3, and Schedule 5, page 3.) However,



1 NIPSCO averaged the stock prices over 30, 60, and 90 days. (*Id.*, Attachment 13-  
2 A, Schedule 4, page 3; Schedule 5, page 3.) Petitioner's stock prices were averaged  
3 from March 8 to July 17, 2024. (*Id.*) I averaged the daily stock prices over a 30-  
4 business day period from September 17 to October 28, 2024. (Attachment LDC-3,  
5 page 3.)

6 **Q: Why did you use a 30-day average of stock prices rather than a longer time**  
7 **period?**

8 A: Past stock prices reflect outdated information. The longer the time period, the more  
9 outdated the information. Using a 30-business day average of stock prices avoids  
10 the irregularities and arbitrariness of using a single day's stock price, while also  
11 avoiding the use of outdated 60 and 90-day stock prices.

12 **Q: Did the difference in stock prices result in a disparity in the dividend yields?**

13 A: Yes. This is evident when comparing Petitioner's and my dividend yields. While  
14 the annual dividends for the Electric group companies were exactly the same or  
15 similar between Petitioner's and my analyses, the average dividend yields were 50  
16 basis points different because of the lower stock prices NIPSCO used. Petitioner's  
17 average dividend yield for the Electric group is 3.9%. (Petitioner's Exhibit No. 13,  
18 Attachment 13-A, Schedule 4, page 3.) My dividend yield for the Electric group,  
19 based on more recent 30-day average stock prices, is 3.4%. (Attachment LDC-3,  
20 page 2.)

21 Similarly, there is a 50 basis point difference in the dividend yield for the  
22 Gas group. The annual dividends were the same or similar for the Gas group  
23 companies. Petitioner calculated a dividend yield for the Gas group of 4.2%.  
24 (Petitioner's Exhibit No. 13, Attachment 13-A, Schedule 5, page 3.) My dividend

1 yield for the Gas group is 3.7%. (Attachment LDC-3, page 2.) Again, the 50 basis  
2 point difference in the dividend yield is due to my use of the more recent 30-day  
3 average stock prices.

4 **Q: Did NIPSCO and you use Yahoo Finance, Zacks, and Value Line's EPS**  
5 **growth estimates?**

6 A: Yes. Most of the EPS growth estimates were the same. Any differences in the EPS  
7 growth estimates are attributable to my estimates being more recent.

8 **Q: Is it fair to say the primary difference in the DCF results between NIPSCO**  
9 **and you is the difference in how the dividend yield was calculated?**

10 A: Yes, with regard to the analysts' EPS growth estimates. The dividend yield I used  
11 was based on more recent information and should be used in this Cause. Also, the  
12 EPS growth rates I used are more recent and should be used if there is a difference  
13 between the rates. As discussed earlier, I also developed a sustainable growth DCF  
14 based on the long-term nominal GDP.

15 **Q: Were there other differences between your DCF results and Petitioner's DCF**  
16 **results?**

17 A: Yes. NIPSCO also added flotation cost adjustments and market-to-book  
18 adjustments.

19 **Q: Are these flotation cost adjustments appropriate?**

20 A: No. NIPSCO's stock is not publicly traded, and NIPSCO does not issue securities  
21 to the public. As such, NIPSCO does not need to retain an underwriter. Therefore,  
22 NIPSCO has not incurred any flotation costs, and flotation cost adjustments should  
23 not be added to the DCF results.

24 **Q: NIPSCO also makes financial leverage or market-to-book adjustments that**  
25 **are discussed on pages 61-63 of Petitioner's Exhibit No. 13 and Appendix C.**  
26 **Do you agree with these adjustments?**

1 A: No. In most jurisdictions, including Indiana, rates of return are set on book value.  
2 Investors know this information and take it into account when they determine the  
3 price they are willing to pay for a utility's stock. Investors do not need additional  
4 compensation because they have bid the price of the stock above its book value.  
5 Also, rating agencies, such as Standard & Poor's, assess financial risk based on the  
6 book value capital structure – not the market value capital structure. Financial  
7 publications, such as *Value Line*, use book values – not the market value – when  
8 they calculate long-term debt and common equity ratios; therefore, adjustments for  
9 market-to-book value are not reasonable in this Cause.

10 **Q: Do any of the companies in Petitioner's Electric and Gas groups have**  
11 **forecasted EPS growth rates that you would characterize as unsustainable in**  
12 **perpetuity?**

13 A: Yes. I would characterize all the analysts' forecasted EPS growth rates – including  
14 the ones I used – as unsustainable in perpetuity. The equation used for the DCF  
15 model assumes an infinite time frame, i.e., in perpetuity. The Yahoo Finance,  
16 Zacks, and *Value Line* forecasts are for three to five years – which is not an infinite,  
17 or even a long-term, timeframe. However, I developed my DCF results using the  
18 forecasted EPS growth rates in order to determine an upper limit for my DCF  
19 results.

20 **Q: Is there a growth rate you would characterize as sustainable in perpetuity?**

21 A: Yes. As discussed earlier, I used the CBO's nominal GDP as a sustainable growth  
22 rate. Over the long-term, a company's growth rate will not exceed the growth rate  
23 of the economy as a whole. The CBO provides nominal GDP estimates in 10-year  
24 increments through 2054. (Attachment LDC-5, page 15.) The average nominal  
25 GDP for 2024-2054 is 3.8%. I used the nominal GDP growth rate of 4.0%, which

1 is the growth rate for 2024-2034. (*Id.*) The 4.0% growth rate is higher than the 30-  
2 year average GDP of 3.8%, and therefore, is a conservative estimate. My  
3 sustainable growth DCF results for the Electric and Gas groups are contained on  
4 Attachment LDC-3, page 1.

5 **Q: Did NIPSCO also indicate a DCF result for its Non-Regulated group?**

6 A: Yes. The result is contained on Petitioner's Exhibit No. 13, Attachment 13-A,  
7 Schedule 6, page 1.

8 **Q: Did you prepare a DCF analysis for Petitioner's Non-Regulated group?**

9 A: No. As mentioned earlier, the risks of the companies in NIPSCO's Non-Regulated  
10 group are not comparable to the risks of regulated utilities. Regulated utilities' rates  
11 are established by state-level regulatory and public service commissions. Non-  
12 regulated companies set their prices based on market conditions. The operations of  
13 Coca-Cola, Home Depot, McDonald's, and Republic Services are not comparable  
14 to NIPSCO's or the companies in the Electric and Gas groups.

15 Several of the companies in Petitioner's Non-Regulated group have  
16 forecasted EPS growth rates over 10.0%. (*Id.*) These high growth rates exceed the  
17 forecasted growth rates of the U.S. economy and the companies in the Electric and  
18 Gas proxy groups, are not sustainable, and should not be used in a DCF analysis to  
19 estimate NIPSCO's COE.

20 **Q: Please summarize your position on NIPSCO's DCF results.**

21 A: Petitioner's dividend yield rates are too high because NIPSCO used lengthy time  
22 periods – 60 and 90 days to calculate the average stock price. The average stock  
23 price can be reasonably determined by using a 30-day average of daily stock prices.  
24 Stock prices based on longer periods are outdated and should not be considered.

1 The dividend yields shown in Attachment LDC-3, page 2, are based on more recent  
2 stock prices over 30 days. Likewise, if there is a difference in the analysts' projected  
3 EPS growth estimates, then the estimates on Attachment LDC-3, page 5, are more  
4 current and should be used. Flotation cost adjustments and market-to-book  
5 adjustments are inappropriate for NIPSCO, as discussed above, and should not be  
6 added to the DCF results. Finally, Petitioner's DCF results for the Non-Regulated  
7 group should be disregarded given the dissimilarity between NIPSCO and the  
8 companies comprising this group.

#### X. NIPSCO'S CAPM ANALYSIS

9 **Q: Please summarize Petitioner's CAPM analysis.**

10 A: Petitioner's CAPM analyses, *before* adjustments, are 11.04% for the Electric group  
11 and 10.97% for the Gas group. (Petitioner's Exhibit No. 13, page 79, Table 10.)  
12 Petitioner also prepared a CAPM result for the Non-Regulated group. (*Id.*) For the  
13 reasons previously discussed, any COE results for the Non-Regulated group should  
14 be disregarded.

15 **Q: Did NIPSCO prepare alternative CAPM results, which include flotation cost**  
16 **adjustments, size adjustments, and ECAPMs?**

17 A: Yes, but as discussed below, those results are unreasonable and should be  
18 disregarded.

19 **Q: You stated earlier the components of the CAPM are the risk-free rate, the beta,**  
20 **and ERP. Did Petitioner present information on these components in its**  
21 **CAPM analyses?**

22 A: Yes.

23 **Q: What risk-free rate did Petitioner use in its CAPM analyses?**

1 A: Petitioner used a 4.26% risk-free rate. (Petitioner's Exhibit No. 13, page 72, lines  
2 2-3.) This rate is only 4 basis points different from the 4.30% risk-free rate I used  
3 in this Cause. (Attachment LDC-4, page 2.)

4 **Q: What betas did Petitioner use for the Electric and Gas groups?**

5 A: Petitioner used a beta of 0.91 for the Electric group and 0.90 for the Gas group.  
6 (Petitioner's Exhibit No. 13, page 75, lines 1-3.) These betas were obtained through  
7 *Value Line*. (*Id.*, line 2.) I also used a *Value Line* beta of 0.91 for the Electric group  
8 but used a 0.89 *Value Line* beta for the Gas group. (Attachment LDC-4, page 3.)  
9 The *Value Line* information I used is more current, so the Gas group beta should be  
10 0.89.

11 **Q: What ERP did NIPSCO use in its CAPM analyses?**

12 A: Petitioner refers to the ERP as the Market Risk Premium. The terms are  
13 synonymous for purposes of the CAPM analyses. Petitioner uses an ERP of 7.45%,  
14 a beta of 0.91, along with a risk-free rate of 4.26%, to derive what Petitioner  
15 characterizes as a traditional CAPM of 11.04% for the Electric group. (Petitioner's  
16 Exhibit No. 13, Attachment 13-A, Schedule 7, page 1.) A similar calculation was  
17 prepared for the Gas group except the beta was changed to 0.90. The traditional  
18 CAPM result was 10.97% for the Gas group. (*Id.*, page 3.)

**Q: Do you agree with NIPSCO's ERP?**

19 A: No. NIPSCO's ERP is unreasonably high. Petitioner's ERP of 7.45% is 195 basis  
20 points *higher* than my highest ERP estimate of 5.50%. (Attachment LDC-4, page  
21 4.) I reviewed three reputable, objective sources for determining the ERP: Kroll  
22 (5.0%), Damodaran (4.6%), and the IESE Survey (5.5%). I use the Kroll

1 recommendation of 5.0%, which is also the rounded average of the three ERP  
2 sources.

3 **Q: Why is Petitioner's ERP 195 basis points higher than your highest ERP**  
4 **estimate and 245 basis points higher than your recommended ERP of 5.0%?**

5 A: The easiest way to explain NIPSCO's 7.45% ERP is to refer to Petitioner's  
6 calculation of the Electric group's ERP on Petitioner's Exhibit No. 13, Attachment  
7 13-A, Schedule 7, page 1.

8 **Q: Please discuss Petitioner's calculations on Schedule 7.**

9 A: The first problem with the calculations is the "Growth Rate (2)" of 11.15%. A  
10 growth rate of 11.15% is 475 basis points (11.15 – 6.40) higher than Petitioner's  
11 highest average EPS growth rate – attributed to Zacks. (*Id.*, Schedule 4, page 1.)  
12 Similarly, the "Growth Rate – (4-5 Year Horizon Average)(5)" is listed as 9.24%.  
13 (*Id.*, Schedule 7, page 1.) Again, almost 300 basis points higher than NIPSCO's  
14 6.40% growth rate recommended above. After adding dividend yields to the growth  
15 rates, Petitioner averages the market returns and indicates a Prospective Market  
16 Return of 12.00% (*Id.*) NIPSCO then subtracts the risk-free rate of 4.26% from the  
17 Prospective Market Return of 12.00% to derive a Prospective Market Risk  
18 Premium of 7.74%. (*Id.*) Finally, Petitioner averages the Prospective Market Risk  
19 Premium of 7.74% with a Historical Average Market Risk Premium of 7.17% to  
20 reach a Market Risk Premium of 7.45%.

21 **Q: What is your conclusion after reviewing NIPSCO's testimony and calculation**  
22 **of the Market Risk Premium, i.e., ERP?**

23 A: Petitioner's ERP is exceedingly high, is not reasonably related to utility risk, and  
24 should accordingly, be disregarded.

25 **Q: Do you have other observations regarding Petitioner's ERP?**

1 A: Yes. Investors in utility stocks do not expect annual market returns of 12.00%.  
2 These investors should expect, at most, EPS returns in the 6.00% range for the  
3 Electric and Gas groups. (Attachment LDC-3, page 5.) As I discussed earlier, even  
4 those returns are not sustainable for perpetuity. I recommend the Commission  
5 disregard NIPSCO's unreasonably high Market Risk Premium of 7.45% and the  
6 correspondingly high CAPM results that are derived from this Market Risk  
7 Premium.

8 **Q: Petitioner's witness Rea testified he used the *Kroll Cost of Capital Navigator***  
9 **in his analyses. (Petitioner's Exhibit No. 13, page 72, lines 11-13; page 74, lines**  
10 **9-10.) Who owns Kroll?**

11 A: Duff & Phelps. Petitioner's witness cites to the *Duff & Phelps Valuation Handbook*  
12 in his testimony. (*Id.*, page 68, line 10.) Therefore, Petitioner has relied on both  
13 Duff & Phelps, and the company Duff & Phelps owns, Kroll, to support its  
14 testimony in this Cause. However, NIPSCO chooses to disregard Kroll's current  
15 recommended ERP.

16 **Q: What does Kroll recommend as an ERP?**

17 A: Kroll recommends an ERP of 5.0%. (Attachment LDC-9, pages 1, 5.)

18 **Q: What is your recommended ERP in this Cause?**

19 A: I recommend 5.0%, which is the same as the Kroll recommendation and the  
20 rounded average of the three ERP sources I reviewed.

21 **Q: Do you have any concerns regarding Petitioner's size adjustments?**

22 A: Yes. Petitioner includes size adjustments of 46 basis points for the Electric group  
23 and 64 basis points for the Gas group. (Petitioner's Exhibit No. 13, Attachment 13-  
24 A, Schedule 7, pages 1, 3.) These size adjustments are inappropriate and should be  
25 disregarded. NiSource has a market capitalization of \$14.2 billion. (Attachment



1 LDC-2, page 12.) This capitalization is lower than the Electric group market  
2 capitalization of \$18.7 billion. (Petitioner's Exhibit No. 13, page 76, line 13.)  
3 However, NiSource's capitalization of \$14.2 billion is almost twice as high as the  
4 Gas group's market capitalization of \$7.3 billion. (*Id.*, line 15.) Therefore, if any  
5 size adjustment is applied to the Gas group – it should be *negative*. Finally,  
6 NiSource, the majority shareholder of NIPSCO's stock, has a market capitalization  
7 of \$14.2 billion – which is larger than the \$13 billion average market capitalization  
8 of the Electric and Gas groups ( $\$18.7 + \$7.3 / 2 = \$13$ ). Consequently, the size  
9 adjustments are inappropriate.

10 **Q: Besides a traditional CAPM and CAPM with size adjustment, does Petitioner**  
11 **use any other variation of the CAPM?**

12 A: Yes. Petitioner also uses an ECAPM. Petitioner's ECAPM for the Electric group is  
13 11.29%, which includes a flotation cost adjustment of 8 basis points. (Petitioner's  
14 Exhibit No. 13, page 79, Table 10.) Petitioner's ECAPM for the Gas group is  
15 11.23%, which also includes a flotation cost adjustment of 8 basis points. (*Id.*)

16 **Q: Do you agree with using Petitioner's ECAPM to estimate an appropriate COE**  
17 **for Petitioner?**

18 A: No. The ECAPM is designed to address a theoretical downward bias in risk by  
19 increasing the risk factor – beta. This is accomplished by giving a 25% weight to  
20 the Market Risk Premium and a 75% weight to a traditional CAPM risk premium  
21 for the proxy group. ECAPM essentially limits the impact of the beta calculated for  
22 the proxy group.

1 **Q: Has the Commission expressed an opinion on the use and results of an ECAPM**  
2 **approach?**

3 A: Yes. The Commission has rejected the use of ECAPM in at least two previous  
4 Causes (Cause Nos. 40003 and 42359). In its Final Order in Cause No. 42359, the  
5 Commission affirmed its previous finding that the ECAPM is unreliable for  
6 ratemaking purposes:

7 With respect to the ECAPM analysis performed by Dr. Morin we  
8 note that the Commission rejected this model in Cause No. 40003,  
9 and found that: 'the Empirical CAPM is not sufficiently reliable for  
10 ratemaking purposes.' Cause No. 40003 at 32. We went on to  
11 conclude that the ECAPM '. . . would adjust, in essence, future  
12 expectations with regard to investor perceptions of relative risks for  
13 further change which may occur years hence.' The Commission  
14 concluded that '. . . we do not believe exercises in approximating  
15 future cost of capital are conducive to such precise estimation as the  
16 Empirical CAPM would suggest.' *Id.* We find that nothing  
17 presented in this Cause has changed our prior determination that  
18 ECAPM is not sufficiently reliable for ratemaking purposes and  
19 hereby reject the model in this proceeding.

20 *In re PSI Energy*, Cause No. 42359, Final Order, page 48 (Ind. Util. Regul. Comm'n  
21 May 18, 2004.)

22 **Q: Based on the Order in Cause No. 42359 quoted from above, should the**  
23 **Commission give weight to Petitioner's ECAPM results?**

24 A: No. Petitioner's ECAPM results should be disregarded. Also, Petitioner's ECAPM  
25 results should be disregarded because they use inflated ERPs as discussed above,  
26 and therefore, the ECAPM results are overstated.

**XI. NIPSCO'S RISK PREMIUM METHOD ("RPM")**

27 **Q: Please describe Petitioner's RPM.**

28 A: NIPSCO's RPM analyses use a prospective bond yield of 5.92% for the Electric  
29 group. (Petitioner's Exhibit No. 13, Attachment 13-A, Schedule 8, page 1.)

1 NIPSCO then adds an ERP of 5.24% to derive a COE of 11.16% for the Electric  
2 group. (*Id.*) In a similar manner, NIPSCO uses a prospective bond yield of 5.87%  
3 for the Gas group. (*Id.*, page 7.) NIPSCO then adds an ERP of 5.21% to derive a  
4 COE of 11.08% for the Gas group. (*Id.*)

5 **Q: Do you agree with Petitioner's RPM analyses?**

6 A: No. Petitioner's bond yields are essentially used as a proxy for the risk-free rate in  
7 the RPM analyses. Bond yields of 5.92% and 5.87% are over 155 basis points  
8 higher than the risk-free rates used by Petitioner (4.26%) or the OUCC (4.30%) in  
9 this Cause. Thus, NIPSCO's unreasonably high risk-free rates result in  
10 unreasonably high COE results of 11.16% for the Electric group and 11.08% for  
11 the Gas group. (*Id.*, pages 1, 7.)

12 **Q: What is your conclusion after reviewing Petitioner's RPM analyses?**

13 A: Petitioner's prospective bond yields, which are used as proxies in the RPM analyses  
14 for the risk-free rate, are unreasonably high, and result in unreasonably high COE  
15 results. Therefore, Petitioner's RPM analyses should be disregarded.

## **XII. CAPITAL STRUCTURE**

16 **Q: Briefly explain Petitioner's proposed May 31, 2025, capital structure.**

17 A: NIPSCO's proposed May 31, 2025, capital structure is contained on Petitioner's  
18 Exhibit No. 3, Attachment 3-A-S1, page 5, and Attachment 3-B-S1, CS Module.  
19 Petitioner took its December 31, 2023, capital structure and updated the capital  
20 structure to December 31, 2024. Petitioner then adjusted the capital structure to

1 what NIPSCO anticipates the capital structure will be on May 31, 2025.

2 (Petitioner's Exhibit No. 3, Attachment 3-B-S1.)

3 **Q: Is Petitioner going to update the May 31, 2025, capital structure?**

4 A: Yes. Petitioner's witness Weatherford stated: "...NIPSCO will update its basic

5 rates and charges to reflect Step 1 expense as approved in the Commission's Order,

6 actual rate base, related annualized depreciation and amortization expense, *and*

7 *actual capital structure based on the May 31, 2025 cutoff date.*" (Petitioner's

8 Exhibit No. 3, page 14, lines 14-17, emphasis added.)

9 **Q: Do you agree with NIPSCO's proposed May 31, 2025, capital structure?**

10 A: Yes, however, the OUCC reserves the right to review and object to the proposed

11 actual capital structure amounts when NIPSCO makes the Step 1 filing.

12 **Q: Should there be a review period for the OUCC and Intervenors when NIPSCO**  
13 **makes its Step 1 filing?**

14 A: Yes. I recommend the same 60-day review period for Step 1 rates the Commission

15 approved in NIPSCO Gas' recent rate case, Cause No. 45967:

16 ...Phase 1 rates will go into effect on a services rendered basis after  
17 the new tariff has been approved by the Commission's Energy  
18 Division, on an interim subject to refund basis, *pending the 60-day*  
19 *review process all other parties shall have to review and present any*  
20 *objections.* NIPSCO will certify its actual total rate base, capital  
21 structure, and associated annualized depreciation and amortization  
22 expenses as of June 30, 2024,...

23 *In re NIPSCO*, Cause No. 45967, Final Order, page 12, emphasis added.

24 (Ind. Util. Regul. Comm'n Jul 31, 2024).

25 **Q: Did Petitioner also propose a December 31, 2025 capital structure?**

1 A: Yes. Petitioner's proposed December 31, 2025 capital structure is reflected on  
2 Petitioner's Exhibit No. 3, Attachment 3-A-S2, page 5, and Attachment 3-B-S2, CS  
3 Module.

4 **Q: Is Petitioner going to update the December 31, 2025 capital structure?**

5 A: Yes. Petitioner's witness Weatherford stated:

6 In Step 2, NIPSCO will update its basic rates and charges to  
7 reflect Step 2 expense and Step 2 base cost of fuel as  
8 approved in the Order, actual rate base, related annualized  
9 depreciation and amortization expense, *and actual capital*  
10 *structure based on the December 31, 2025 Forward Test*  
11 *Year cutoff date.*

12 (Petitioner's Exhibit No. 3, page 15, lines 4-8, emphasis added.)

13 **Q: Do you agree with NIPSCO's proposed December 31, 2025, capital structure?**

14 A: Yes, however, the OUCG also reserves the right to review and object to the  
15 proposed actual capital structure amounts when NIPSCO makes the Step 2 filing.

16 **Q: Should there also be a review period for the OUCG and Intervenors when**  
17 **NIPSCO makes its Step 2 filing?**

18 A: Yes. I recommend the same 60-day review period for Step 2 rates the Commission  
19 approved in NIPSCO Gas' recent rate case, Cause No. 45967: "Step 2 rates will  
20 take effect on a services rendered basis after the new rates have been approved by  
21 the Commission's Energy Division, on an interim-subject-to-refund basis, *with*  
22 *other parties having a period of 60 days to review and present any objections.*" *In*  
23 *re NIPSCO*, Cause No. 45967, Final Order, page 13, emphasis added. (Ind. Util.  
24 Regul. Comm'n Jul 31, 2024).

25 **Q: Have you calculated a WACC rate based on your recommended 8.8% COE?**

26 A: Yes. Using Petitioner's proposed May 31, 2025, capital structure, a cost of  
27 common equity of 9.0% results in a WACC of 6.68%. (Attachment LDC-1,

1 page 1.) Using Petitioner's proposed December 31, 2025, capital structure, a  
2 cost of common equity of 9.0% results in a WACC of 6.75%. (*Id.*, page 2.)

### XIII. SUMMARY AND RECOMMENDATIONS

3 **Q: Please summarize your testimony on DCF calculations for the proxy groups.**

4 A: I calculated a 3.4% dividend yield for the Electric group and a 3.7% dividend yield  
5 for the Gas group. I reviewed economic growth data from the CBO. Based on that  
6 growth data, I determined a sustainable growth rate of 4.0% is reasonable. Adding  
7 the 3.4% dividend yield to the 4.0% sustainable EPS growth rate results in a 7.4%  
8 sustainable growth DCF result for the Electric group. The sustainable growth DCF  
9 result for the Gas group is 7.7%.

10 I also calculated DCF results using projected EPS growth rates from *Value*  
11 *Line*, Yahoo Finance, and Zacks. I added the 3.4% dividend yield to the average  
12 EPS growth rate of 6.0% to derive a DCF result of 9.4% for the Electric group. The  
13 DCF result for the Gas group, using the 3.7% dividend yield, and the 5.9% EPS  
14 growth rate, is 9.6%. Overall, my DCF results range from 7.4% to 9.4% for the  
15 Electric group and 7.7% to 9.6% for the Gas group.

16 **Q: Please summarize your testimony on CAPM calculations for the Electric and**  
17 **Gas groups.**

18 A: Based on *Value Line* betas and using the same Electric and Gas groups, I calculated  
19 an average beta of 0.91 for the Electric group and an average beta of 0.89 for the  
20 Gas group. As the beta is less than 1.0, it also describes a relatively low-risk  
21 industry. I used a risk-free rate of 4.30%. I reviewed 10-year, 20-year, and 30-year  
22 Treasury bond yield data for a recent 30-day period in arriving at the risk-free rate.

1 I calculated an ERP of 5.0% based on average ERP estimates from Kroll,  
2 Damodaran, and the IESE survey. The CAPM COE is 8.8% for the Electric group  
3 and also 8.8% for the Gas group.

4 **Q: Please summarize your recommendation for Petitioner's COE.**

5 A: I recommend the Commission authorize a 9.0% COE for NIPSCO. This  
6 recommendation is higher than the CAPM results for the Electric and Gas groups,  
7 and higher than the middle of my DCF ranges for the Electric and Gas groups. I  
8 also recommend:

- 9 • A May 31, 2025 capital structure which is updated to actual amounts  
10 in NIPSCO's Step 1 filing, subject to a 60-day review period for the  
11 OUCC and Intervenors.
- 12 • A December 31, 2025 capital structure which is updated to actual  
13 amounts in NIPSCO's Step 2 filing, subject to a 60-day review  
14 period for the OUCC and Intervenors.

15 **Q: Does this conclude your testimony?**

16 A: Yes.

**APPENDIX LDC-1 TO TESTIMONY OF  
OUCC WITNESS LEJA D. COURTER**

1 **Q: Please describe your educational background and experience.**

2 A: I graduated from Ball State University in Muncie, Indiana, with Bachelor of Science  
3 degrees in Finance and Economics. I received my Juris Doctorate from the  
4 University of Dayton. Before coming to the OUCC, I engaged in the private practice  
5 of law, and I also served as an in-house counsel at Indiana Gas Company. I have  
6 been an attorney at the OUCC for over 25 years. I was the Director of the OUCC's  
7 Natural Gas Division for 12 years and became a Chief Technical Advisor at the  
8 OUCC in December 2021. I am a Certified Rate of Return Analyst.

9 **Q: Have you previously testified before the Indiana Utility Regulatory**  
10 **Commission?**

11 A: Yes.

12 **Q: Please describe the review and analysis you conducted to prepare your**  
13 **testimony.**

14 A: I reviewed NIPSCO's petition, testimony, exhibits, and supporting documentation  
15 filed in this Cause. I also reviewed Petitioner's responses to discovery requests and  
16 relevant portions of the Commission Orders cited in my testimony.

**XIV. DISCOUNTED CASH FLOW ("DCF") ANALYSIS**

17 **A. Introduction to DCF Model**

18 **Q: Please describe the DCF model.**

19 A: The DCF model is typically used by investors to determine the appropriate price to  
20 pay for a security. This model assumes the price of a security should be determined



1 by its expected cash flows discounted by the company's cost of equity. On a one-  
2 year horizon, the price of a stock ( $P_0$ ) is equal to the anticipated dividends paid  
3 during the year ( $D_1$ ), plus the anticipated price of the stock at the end of the year ( $P_1$ )  
4 divided by one plus the company's cost of equity ( $k$ ). In turn, this year's year-end  
5 price ( $P_1$ ) is determined by next year's anticipated dividends ( $D_2$ ) and next year's  
6 anticipated year-end price ( $P_2$ ) divided by one plus the company's cost of equity ( $k$ ).

7 Because investors may plan to hold securities for extended periods, the DCF  
8 equation can restated for an infinite or unknown number of periods as follows:

9 
$$P_0 = D_1/(k-g)$$

10 [Where the price of a security ( $P_0$ ) equals the anticipated dividends paid over the  
11 current period ( $D_1$ ) divided by the company's cost of equity ( $k$ ) minus the expected  
12 growth rate of dividends ( $g$ )].

13 The company's cost of equity must be greater than its expected dividend  
14 growth rate of this model to be valid. By rearranging the model, the familiar DCF  
15 formula used in regulatory proceedings can be obtained.

16 
$$k = (D_1/P_0) + g$$

17 [Where the cost of equity ( $k$ ) equals the dividend yield ( $D_1/P_0$ ) plus the expected  
18 growth rate in dividends per share ( $g$ ). To estimate the cost of equity ( $k$ ), the dividend  
19 yield ( $D_1/P_0$ ) and the expected growth rate in dividends ( $g$ ) must be estimated.]

20 **Q: How did you calculate the dividend yields ( $D_1/P_0$ ) in your analysis?**

21 **A:** I used the most recent quarterly dividends for each of the companies in the proxy  
22 groups times 4 to derive an annual dividend for each company. Then I took a 30-day

1 average of the stock prices for each company. I divided the annual dividend by the  
2 average stock price to determine the dividend yield for each company.

3 **Q: What dividend yields do you use in your DCF analyses?**

4 A: Attachment LDC-3, page 2 contains the average dividend yields for the Electric and  
5 Gas proxy groups.

6 **Q: How did you estimate the long-term dividend growth component (g) of the DCF  
7 model?**

8 A: The DCF model assumes investors expect earnings per share (EPS) to grow at a  
9 constant long run growth rate (g). I developed two growth rates. I developed a  
10 sustainable growth rate based on data from the CBO. I developed a second growth  
11 rate based on projected EPS growth rates from *Value Line*, Yahoo Finance, and  
12 Zacks.

13 **Q: What is your estimated long-term dividend growth component (g) of the DCF  
14 model?**

15 A: I use a sustainable growth rate of 4.0% based on the CBO's nominal GDP growth  
16 rate for 2024-2034. The analysts' projected average EPS growth rate is 6.0% for the  
17 Electric group and 5.9% for the Gas group.

18 **Q: To estimate the dividend growth (g) for your DCF analysis, did you include  
19 negative growth rates or zero growth rates?**

20 A: No. I excluded zero and negative growth rates to estimate (g) in my DCF analysis.  
21 The only negative growth rate was a -12.3% for OGE Energy Corp. and I did not  
22 use it in estimating the analysts' projected growth rates.

23 **Q: What are the results of your DCF analyses?**

1 A: The results of my DCF analyses are a range of 7.4% to 9.4% for the Electric  
2 group and 7.7% to 9.6% for the Gas LDC group. (Attachment LDC-3, page 1.)

V. CAPITAL ASSET PRICING MODEL (CAPM) ANALYSIS

3 **Q: Please describe your CAPM analysis.**

4 A: The CAPM is a form of risk premium analysis used to estimate the cost of  
5 capital. The CAPM is based on the premise that investors require a higher return  
6 for assuming additional risk. Total risk is divisible into two categories:  
7 systematic risk and unsystematic risk. Systematic risk is risk that affects the  
8 entire market, including inflation, monetary policy, fiscal policy, or politics.  
9 Unsystematic risk is risk unique to the company, and may include strikes,  
10 management errors, merger activity, or individual financing policy.

11 Investors can eliminate unsystematic risk through diversification.  
12 Because returns of individual securities of a portfolio do not usually move  
13 in the same direction at the same time, the total risk of a portfolio is less than  
14 the risk of the individual securities that make up the portfolio. The market does  
15 not compensate investors for assuming unsystematic risk because investors can  
16 eliminate unsystematic risk through diversification. Conversely, systematic risk,  
17 also referred to as market risk, cannot be eliminated through diversification.  
18 However, because investments will move with different relationships to the  
19 market, investors can form a portfolio to assume the amount of market risk they

1 wish. An investor's required return depends on the market risk that the investor  
2 assumes.

3 **Q: How is systematic (market) risk measured?**

4 A: Beta is the measurement of an investment's relationship to the market. More  
5 specifically, beta measures an asset's price volatility compared to the market.  
6 The market has a beta of one. The market refers to the returns on all assets. It is  
7 difficult to measure the return on all assets. Therefore, analysts typically rely on  
8 a market index, such as the Standard & Poor's 500 Index, as a proxy for the  
9 market. Assets more volatile than the market will have a beta greater than one,  
10 and thus, are considered riskier than the market. Assets that are less volatile will  
11 have a beta less than one and are considered less risky than the market.

12 The CAPM formula can be stated as follows:

13 
$$K = R_{fc} + B (R_m - R_f)$$

14 where,

15 K Cost of Equity

16  $R_{fc}$  Current Risk-Free Rate of Return

17 B Beta

18  $R_m - R_f$  Expected Market Equity Risk Premium

19  $R_m$  Market Equity Return

20  $R_f$  Risk Free Rate of Return

1 The return on an asset (K) equals the risk-free rate of return ( $R_{fc}$ ) plus its beta  
2 (B) multiplied by the market equity risk premium ( $R_m - R_f$ ). The market equity  
3 risk premium (“ERP”) equals the market equity return minus the risk-free rate  
4 of return.

5 **Q: How did you estimate the risk-free rate?**

6 A: I reviewed 10-year, 20-year, and 30-year U.S. Treasury Bond yields over a 30-day  
7 period to estimate the risk-free rate. I used the 30-year Treasury Bond yield of 4.30%  
8 as the risk-free rate.

9 **Q: What source did you review to estimate beta?**

10 A: I relied on *Value Line* betas to determine an average beta for the Electric and Gas  
11 groups. The Electric group beta is 0.91 and the Gas group beta is 0.89.

12 **Q: How did you determine the ERP?**

13 A: I reviewed ERP recommendations from Kroll, Damodaran, the IESE survey. I used  
14 the averages of these ERP recommendations, 5.0%, as the ERP.

15 **Q: What are the results of your CAPM analyses.**

16 A: The cost of equity based on my CAPM analysis for the Electric group is 8.8%. The  
17 cost of equity based on my CAPM analysis for the Gas group 8.8%. (Attachment  
18 LDC-4, page 1.)

**NIPSCO  
Capital Structure  
As of May 31, 2025 \***

<b><u>Description</u></b>	<b><u>Capitalization</u></b>	<b><u>Percent</u></b>	<b><u>Cost</u></b>	<b><u>WAC</u></b>
Common Equity	\$6,784,926,641	52.90%	9.00%	4.76%
Long-Term Debt	\$4,768,970,821	37.18%	5.09%	1.89%
Customer Deposits	\$59,885,295	0.47%	5.76%	0.03%
Deferred Income Taxes	\$1,594,868,575	12.43%	0.00%	0.00%
Post-Retirement Liability	(\$1,678,340)	-0.01%	0.00%	0.00%
Prepaid Pension Asset	(\$380,551,396)	-2.97%	0.00%	0.00%
Post-1970 ITC	\$174,612	0.00%	8.32%	0.00%
<b>Totals</b>	<b>\$12,826,596,208</b>	<b>100.00%</b>		<b>6.68%</b>

\* Petitioner's Exhibit No. 3, Attachment 3-A-S1, page 5.

**NIPSCO  
Capital Structure  
As of December 31, 2025 \***

<u>Description</u>	<u>Capitalization</u>	<u>Percent</u>	<u>Cost</u>	<u>WAC</u>
Common Equity	\$7,718,129,223	53.01%	9.00%	4.77%
Long-Term Debt	\$5,468,979,284	37.56%	5.20%	1.95%
Customer Deposits	\$59,885,295	0.41%	5.76%	0.02%
Deferred Income Taxes	\$1,691,723,532	11.62%	0.00%	0.00%
Post-Retirement Liabilit	(\$7,491,885)	-0.05%	-0.05%	0.00%
Prepaid Pension Asset	(\$372,308,313)	-2.56%	0.00%	0.00%
Post-1970 ITC	\$174,612	0.00%	8.32%	0.00%
<b>Totals</b>	<b>\$14,559,091,748</b>	<b>100.0%</b>		<b>6.75%</b>

\* Petitioner's Exhibit No. 3, Attachment 3-A-S2, page 5.

<b>ALLIANT ENERGY</b> NDQ-LNT										RECENT PRICE	58.22	P/E RATIO	19.0 (Trailing: 23.8 Median: 21.0)	RELATIVE P/E RATIO	1.04	DIV/D YLD	3.3%	VALUE LINE					
TIMELINESS	3	Raised 5/3/24	High:	27.1	34.9	35.4	41.0	45.6	46.6	55.4	60.3	62.3	65.4	56.3	58.7				Target Price Range				
SAFETY	1	Raised 9/6/24	Low:	21.9	25.0	27.1	30.4	36.6	36.8	40.8	37.7	46.0	47.2	45.2	46.8				2027	2028	2029		
TECHNICAL	3	Raised 9/6/24	<b>LEGENDS</b> 28.00 x Dividends p sh divided by Interest Rate . . . . Relative Price Strength 2-for-1 split 5/16 Options: Yes Shaded area indicates recession 2-for-1																				
BETA	.90	(1.00 = Market)																					
<b>18-Month Target Price Range</b>																							
Low-High	Midpoint (% to Mid)																						
\$44-\$67	\$56 (-5%)																						
<b>2027-29 PROJECTIONS</b>																							
High	Price	Gain	Ann'l Total																				
Low	75	(+30%)	Return																				
	65	(+10%)	9%																				
			6%																				
<b>Institutional Decisions</b>																							
to Buy	3Q2023	4Q2023	1Q2024																				
to Sell	277	312	290																				
Hlds(000)	282	279	311																				
	204187	209105	208018																				
				Percent	24																		
				shares	16																		
				traded	8																		
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC		27-29			
16.67	15.51	15.40	16.51	13.94	14.77	15.10	14.34	14.58	14.62	14.97	14.89	13.67	14.65	16.74	15.72	<b>16.20</b>	<b>17.30</b>	Revenues per sh	<b>18.35</b>				
2.28	2.10	2.60	2.75	2.95	3.34	3.49	3.45	3.43	3.97	4.32	4.59	4.92	5.25	5.40	5.38	<b>5.55</b>	<b>5.85</b>	"Cash Flow" per sh	<b>6.50</b>				
1.27	.95	1.38	1.38	1.53	1.65	1.74	1.69	1.65	1.99	2.19	2.33	2.47	2.63	2.73	2.78	<b>2.95</b>	<b>3.25</b>	Earnings per sh <sup>A</sup>	<b>3.90</b>				
.70	.75	.79	.85	.90	.94	1.02	1.10	1.18	1.26	1.34	1.42	1.52	1.61	1.71	1.81	<b>1.92</b>	<b>2.04</b>	Div'd Decl'd per sh <sup>B</sup> +	<b>2.43</b>				
3.98	5.43	3.91	3.03	5.22	3.32	3.78	4.25	5.26	6.34	6.92	6.69	5.47	4.67	5.91	7.24	<b>5.80</b>	<b>5.60</b>	Cap'l Spending per sh	<b>5.40</b>				
12.78	12.54	13.05	13.57	14.12	14.79	15.54	16.41	16.96	18.08	19.43	21.24	22.76	23.91	24.99	26.46	<b>27.65</b>	<b>28.85</b>	Book Value per sh <sup>C</sup>	<b>31.90</b>				
220.90	221.31	221.79	222.04	221.97	221.89	221.87	226.92	227.67	231.35	236.06	245.02	249.87	250.47	251.14	256.10	<b>256.70</b>	<b>256.70</b>	Common Shs Outst'g <sup>D</sup>	<b>257.00</b>				
13.4	13.9	12.5	14.5	14.5	15.3	16.6	18.1	22.3	20.6	19.1	21.2	21.2	21.2	21.4	18.8	<i>Bold figures are Value Line estimates</i>		Avg Ann'l P/E Ratio	<b>18.0</b>				
.81	.93	.80	.91	.92	.86	.87	.91	1.17	1.04	1.03	1.13	1.09	1.15	1.24	1.05			Relative P/E Ratio	<b>1.00</b>				
4.1%	5.7%	4.6%	4.3%	4.1%	3.7%	3.5%	3.6%	3.2%	3.1%	3.2%	2.9%	2.9%	2.9%	2.9%	3.5%			Avg Ann'l Div'd Yield	<b>3.7%</b>				
<b>CAPITAL STRUCTURE as of 6/30/24</b>																							
Total Debt \$9756 mill. Due in 5 Yrs \$2984 mill.																							
LT Debt \$8900 mill. LT Interest \$370 mill.																							
(LT interest earned: 2.8x)																							
Leases, Uncapitalized Annual rentals \$3 mill.																							
Pension Assets-12/23 \$732 mill.																							
Pfd Stock None																							
Common Stock 256,499,575 shs.																							
MARKET CAP: \$14.9 billion (Large Cap)																							
<b>ELECTRIC OPERATING STATISTICS</b>																							
				2021	2022	2023																	
% Change Retail Sales (KWH)				+3.7	-7																		
Avg. Indust. Use (MWH)				11696	11494	11435																	
Avg. Indust. Revs. per KWH (c)				7.64	8.39	8.47																	
Capacity at Peak (Mw)				NA	NA	NA																	
Peak Load, Summer (Mw)				5486	5629	5856																	
Annual Load Factor (%)				NA	NA	NA																	
% Change Customers (yr-end)				+8	+7	+7																	
Fixed Charge Cov. (%)				259	NA	NA																	
<b>ANNUAL RATES</b>				Past	Past	Est'd '21-'23																	
of change (per sh)				10 Yrs.	5 Yrs.	to '27-'29																	
Revenues				.5%	1.5%	2.5%																	
"Cash Flow"				6.0%	6.5%	2.0%																	
Earnings				6.0%	7.0%	6.0%																	
Dividends				6.5%	6.5%	6.0%																	
Book Value				6.0%	6.5%	4.0%																	
Cal-endar	QUARTERLY REVENUES (\$ mill.)				Full Year																		
	Mar.31	Jun.30	Sep.30	Dec.31																			
2021	901	817	1024	927	3669																		
2022	1068	943	1135	1059	4205																		
2023	1077	912	1077	961	4027																		
2024	1031	894	1100	1135	4160																		
2025	1065	1005	1185	1185	4440																		
Cal-endar	EARNINGS PER SHARE <sup>A</sup>				Full Year																		
	Mar.31	Jun.30	Sep.30	Dec.31																			
2021	.68	.57	1.02	.35	2.63																		
2022	.77	.63	.90	.43	2.73																		
2023	.65	.64	1.02	.47	2.78																		
2024	.62	.57	1.10	.66	2.95																		
2025	.74	.69	1.14	.68	3.25																		
Cal-endar	QUARTERLY DIVIDENDS PAID <sup>B</sup> +				Full Year																		
	Mar.31	Jun.30	Sep.30	Dec.31																			
2020	.38	.38	.38	.38	1.52																		
2021	.4025	.4025	.4025	.4025	1.61																		
2022	.4275	.4275	.4275	.4275	1.71																		
2023	.4525	.4525	.4525	.4525	1.81																		
2024	.48	.48	.48																				

**BUSINESS:** Alliant Energy Corporation is the parent company of Interstate Power and Light Company (IPL) and Wisconsin Power and Light Company (WPL). Together, the utility subsidiaries serve approximately one million electric and 425,000 natural gas customers in Wisconsin and Iowa. Electric revenue: residential, 36%; commercial, 25%; industrial, 29%; wholesale, 8%; other, 2%. Generating sources: coal, 32%; gas, 32%; wind, 16%; other, 1%; purchased, 19%. Fuel costs: 25% of revenues. '23 reported depreciation rates: 2.9%-6.1%. Has 3,300 employees. Chairman, President & CEO: John O. Larsen. Incorporated: Wisconsin. Address: 4902 N. Biltmore Lane, Madison, WI 53718-2148. Telephone: 608-458-3311. Internet: www.alliantenergy.com.

**Alliant Energy has reached a settlement in a key rate case.** As we understand it, the electric utility's Interstate Power & Light (IPL) subsidiary has been granted a \$185 million increase in retail rates that will be phased in over a two-year period through a rider mechanism. The multi-faceted agreement also includes a new individual industrial customer rate aimed at attracting new business to the state of Iowa. The settlement provides greater clarity for Alliant and its investors going forward. However, the \$185 million hike is some \$100 million shy of IPL's initial request.

**The utility company is also closer to putting several legacy matters to rest.** In the June quarter, Alliant reached a preliminary cost-recovery deal with respect to the Lansing Generating Station that it shuttered in May, 2023. It also set aside reserves for expanded environmental compliance at the Prairie Creek and Sixth Street coal plants.

**Alliant remains a decent investment play on renewable energy.** Its Wisconsin Power & Light subsidiary was recently expected to complete the last of several

projects that will increase the utility's overall solar-power capacity in the Badger State to 1.1 gigawatts. Meantime, Interstate Power & Light continues to target 400 megawatts of solar power generation by the end of this year. Importantly, these solar projects have zero fuel costs, thus reducing Alliant's susceptibility to swings in natural-gas prices and the like. Its investments in "green" power also yield significant tax credits that can be sold to regional manufacturers and other third parties looking to maintain compliance with restrictions on carbon emissions. In 2025 alone, Alliant could realize as much as \$400 million from the sale of tax credits.

**Alliant Energy shares remain neutrally ranked for relative year-ahead price performance.** And with the stock up 13% in price year to date, long-term appreciation no longer stands out. Still, the utility company boasts an attractive, well-covered dividend that could hold some appeal for income-oriented accounts (current yield: 3.3% versus 2.1% for the Value Line universe as a whole).

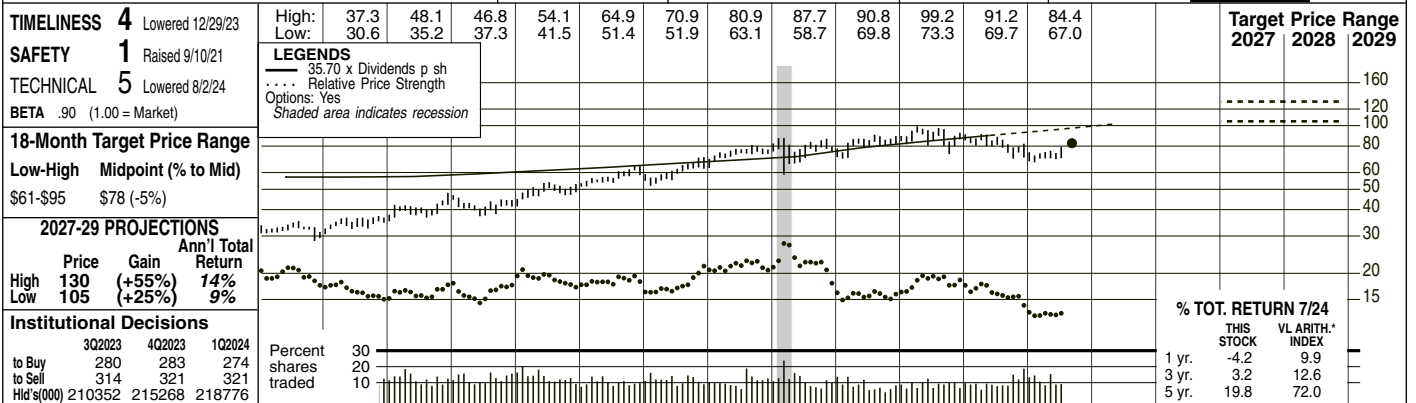
Nils C. Van Liew September 6, 2024

(A) Diluted EPS. Excl. nonrecurring losses: '11, 1c; '12, 8c. '20 & '21 EPS don't sum due to rounding. Next earnings report due early Nov. (B) Dividends historically paid in mid-Feb., May, Aug., and Nov. (C) Dividend reinvestment plan avail. (D) Shareholder investment plan avail. (E) Incl. deferred charges. In '21: \$1,980 mill., \$7.91/sh. (D) In millions, adj. for split. (E) Rate base: Orig. cost. Rates all'd on com. eq. in IA in '20: various; in WI in '22: 10%; earned on avg. com. eq., '21: 11.3%. Regulatory Climate: Wisconsin, Above Average; Iowa, Average.

Company's Financial Strength	A+
Stock's Price Stability	95
Price Growth Persistence	80
Earnings Predictability	100
<b>To subscribe call 1-800-VALUELINE</b>	



**AMEREN** NYSE-AEE **RECENT PRICE 82.57** **P/E RATIO 17.1** (Trailing: 18.7; Median: 20.0) **RELATIVE P/E RATIO 0.93** **DIV'D YLD 3.2%** **VALUE LINE**



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
36.92	29.87	31.77	31.04	28.14	24.06	24.95	25.13	25.04	25.46	25.73	24.00	22.87	24.81	30.37	28.10	<b>28.10</b>	<b>29.40</b>	Revenues per sh	<b>33.35</b>
6.44	6.06	6.33	5.87	5.77	6.08	6.59	6.80	6.59	6.80	7.64	7.83	8.08	8.89	9.59	9.99	<b>10.55</b>	<b>11.15</b>	"Cash Flow" per sh	<b>12.30</b>
2.88	2.78	2.77	2.47	2.41	2.10	2.40	2.38	2.68	2.77	3.32	3.35	3.50	3.84	4.14	4.37	<b>4.60</b>	<b>4.90</b>	Earnings per sh <sup>A</sup>	<b>5.90</b>
2.54	1.54	1.54	1.56	1.60	1.60	1.61	1.66	1.72	1.78	1.85	1.92	2.00	2.20	2.36	2.52	<b>2.68</b>	<b>2.86</b>	Div'd Decl'd per sh <sup>B</sup>	<b>3.30</b>
9.75	7.51	4.66	4.50	5.49	5.87	7.66	8.12	8.78	9.05	9.56	9.92	13.02	13.67	12.79	12.87	<b>12.55</b>	<b>12.80</b>	Cap'l Spending per sh	<b>13.00</b>
32.80	33.08	32.15	32.64	27.27	26.97	27.67	28.63	29.27	29.61	31.21	32.73	35.29	37.64	40.11	40.26	<b>42.90</b>	<b>45.95</b>	Book Value per sh <sup>C</sup>	<b>52.65</b>
212.30	237.40	240.40	242.60	242.63	242.63	242.63	242.63	242.63	242.63	244.50	246.20	253.30	257.70	262.00	267.00	<b>269.00</b>	<b>272.00</b>	Common Shs Outst'g <sup>D</sup>	<b>285.00</b>
14.2	9.3	9.7	11.9	13.4	16.5	16.7	17.5	18.3	20.6	18.3	22.1	22.2	21.4	21.5	18.8	<b>18.8</b>	<b>18.8</b>	Avg Ann'l P/E Ratio	<b>20.0</b>
.85	.62	.62	.75	.85	.93	.88	.88	.96	1.04	.99	1.18	1.14	1.16	1.24	1.07	<b>1.24</b>	<b>1.07</b>	Relative P/E Ratio	<b>1.10</b>
6.2%	6.0%	5.8%	5.3%	5.0%	4.6%	4.0%	4.0%	3.5%	3.1%	3.0%	2.6%	2.6%	2.7%	2.7%	3.3%	<b>2.7%</b>	<b>3.3%</b>	Avg Ann'l Div'd Yield	<b>3.0%</b>

CAPITAL STRUCTURE as of 6/30/24		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total Debt \$17079 mill. Due in 5 Yrs \$2789 mill.		6053.0	6098.0	6076.0	6177.0	6291.0	5910.0	5794.0	6394.0	7957.0	7500.0	<b>7560</b>	<b>8000</b>	Revenues (\$mill)	<b>9500</b>				
LT Debt \$16280 mill. LT Interest \$450 mill.		593.0	585.0	659.0	683.0	821.0	834.0	877.0	995.0	1074.0	1152.0	<b>1235</b>	<b>1330</b>	Net Profit (\$mill)	<b>1700</b>				
(LT interest earned: 3.8x)		38.9%	38.3%	36.7%	38.2%	22.4%	17.9%	15.0%	13.6%	14.0%	12.0%	<b>12.0%</b>	<b>12.0%</b>	Income Tax Rate	<b>12.0%</b>				
Pension Assets-12/23 \$5745 mill.		5.7%	5.1%	4.1%	5.6%	6.9%	5.8%	5.5%	6.0%	5.0%	6.0%	<b>5.0%</b>	<b>5.0%</b>	AFUDC % to Net Profit	<b>4.0%</b>				
Oblig \$5457 mill.		47.2%	49.3%	47.7%	49.2%	50.3%	52.1%	55.0%	56.1%	56.6%	55.7%	<b>53.5%</b>	<b>52.5%</b>	Long-Term Debt Ratio	<b>51.0%</b>				
Pfd Stock \$129 mill. Pfd Div'd \$5 mill.		51.7%	49.7%	51.3%	49.8%	48.8%	47.1%	44.3%	43.3%	43.4%	43.8%	<b>46.0%</b>	<b>47.0%</b>	Common Equity Ratio	<b>48.5%</b>				
807,595 sh. \$3.50 to \$5.50 cum. (no par), \$100 stated val., redeem. \$102.176-\$110/sh.; 487,508 sh. 4.00% to 5.16%, \$100 par, redeem. \$100-\$104.30/sh.		12975	13968	13840	14420	15632	17116	20158	22391	24193	24847	<b>25750</b>	<b>26450</b>	Total Capital (\$mill)	<b>29500</b>				
Common Stock 266,816,725 shs. as of 7/31/24		17424	18799	20113	21466	22810	24376	26807	29261	31262	33776	<b>35000</b>	<b>36300</b>	Net Plant (\$mill)	<b>38400</b>				
MARKET CAP: \$22.0 billion (Large Cap)		5.8%	5.3%	6.0%	6.0%	6.4%	6.0%	5.3%	5.3%	5.4%	5.5%	<b>5.0%</b>	<b>5.0%</b>	Return on Total Cap'l	<b>6.0%</b>				
		8.7%	8.3%	9.1%	9.3%	10.6%	10.2%	9.7%	10.1%	10.2%	11.0%	<b>11.0%</b>	<b>11.0%</b>	Return on Shr. Equity	<b>10.0%</b>				
		8.7%	8.3%	9.2%	9.4%	10.7%	10.3%	9.7%	10.2%	10.2%	11.0%	<b>11.0%</b>	<b>11.0%</b>	Return on Com Equity <sup>E</sup>	<b>10.0%</b>				
		2.9%	2.5%	3.3%	3.4%	4.8%	4.4%	4.2%	4.4%	4.4%	5.0%	<b>5.0%</b>	<b>5.0%</b>	Retained to Com Eq	<b>4.0%</b>				
		67%	70%	64%	64%	56%	57%	57%	57%	57%	57%	<b>56%</b>	<b>56%</b>	All Div'ds to Net Prof	<b>60%</b>				

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

**Ameren Corporation posted better-than-expected 2024 second-quarter profits.** Reported earnings per share of \$0.97 surpassed our and Wall Street's estimate of \$0.95. The strong bottom-line performance was driven mostly by strategic infrastructure investments, increased energy usage, and disciplined cost management. As a result, management remains committed to its earnings per share target for 2024, which is set at a range of \$4.52 to \$4.72. And, we continue to look for the bottom-line results to come in right around the midpoint of Ameren's updated guidance, at \$4.60 a share.

**Earnings will likely head higher next year and beyond.** Ameren is well positioned over that interim to benefit from rate relief in its transmission and Illinois electric operations, as well as increased demand for power from data centers and artificial intelligence innovations over the next few years. In February, the utility updated its 5-year growth plan, which included its target for annual earnings growth of 6%-8% from 2024 through 2028. Accordingly, our 2025 bottom-line estimate represents a 6% increase from our 2024

projections, supported by annual rate base growth of 8.2%. Ameren has a proven track record of performing consistently well over the past decade. And, along with a strong long-term earnings growth goal, the utility is dedicated to growing the dividend in line with profits, with a target payout ratio of 55%-65%.

**These shares have risen nicely over the past three months.** Indeed, the stock is up more than 10% in value since our early June review. Investors appear enthused by the company's stretch of solid financial performances, its subsequent strong long-term outlook, as well as the increased power demand environment moving forward and Ameren's solar facility progress.

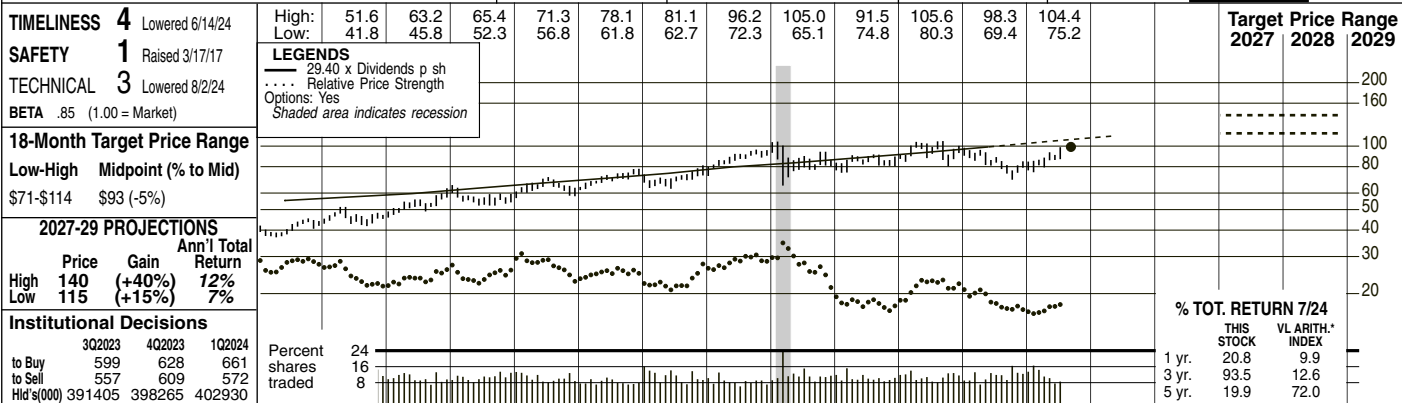
**This issue is best suited to conservative income-oriented accounts.** The top notch Safety rank and Earnings Predictability score may entice risk-averse investors. And while the dividend yield of this untimely but high-quality stock is about average by utility standards, this is one of the most reliable dividend-paying industries in the market.

*Zachary J. Hodgkinson September 6, 2024*

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
<b>QUARTERLY REVENUES (\$ mill.)</b>					
2021	1566	1472	1811	1545	6394
2022	1879	1726	2306	2046	7957
2023	2062	1760	2060	1618	7500
2024	1816	1693	2200	1851	7560
2025	1950	1800	2250	2000	8000
<b>EARNINGS PER SHARE <sup>A</sup></b>					
2021	.91	.80	1.65	.48	3.84
2022	.97	.80	1.74	.63	4.14
2023	1.00	.90	1.87	.60	4.37
2024	.98	.97	2.00	.65	4.60
2025	1.20	.95	2.00	.75	4.90
<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b>					
2020	.495	.495	.495	.515	2.00
2021	.55	.55	.55	.55	2.20
2022	.59	.59	.59	.59	2.36
2023	.63	.63	.63	.63	2.52
2024	.67	.67			

(A) Diluted EPS. Excl. nonrec. gain (losses): '10, (\$2.19); '11, (32c); '12, (\$6.42); '17, (63c); gain (loss) from discontinued ops.: '13, (92c); '15, 21c. Next earnings report due early Nov. (B) Div's paid late Mar., June, Sept., & Dec. Div'd reinvest. plan avail. (C) Incl. intang. '23: \$6.60/sh. (D) In mill. (E) Rate base: Orig. cost depr. Rate allowed on com. eq. in MO in '23: elec. & gas, none specified; in IL: electric, varies; in '23: gas, 9.68%; earned on avg. com. eq., '23: 10.5%. Company's Financial Strength A+ Stock's Price Stability 95 Price Growth Persistence 85 Earnings Predictability 100

**AMERICAN ELEC. PWR. NDQ-AEP** RECENT PRICE **99.02** P/E RATIO **16.8** (Trailing: 17.9; Median: 18.0) RELATIVE P/E RATIO **0.92** DIV'D YLD **3.6%** **VALUE LINE**



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
35.56	28.22	30.01	31.27	30.77	31.48	34.78	33.51	33.31	31.35	32.84	31.49	30.04	33.30	38.20	36.08	<b>38.30</b>	<b>40.20</b>	Revenues per sh	<b>43.65</b>
6.84	6.32	6.29	6.83	6.92	7.02	7.57	7.98	8.47	7.95	8.77	9.35	10.28	10.92	10.72	10.92	<b>11.65</b>	<b>12.35</b>	"Cash Flow" per sh	<b>15.20</b>
2.99	2.97	2.60	3.13	2.98	3.18	3.34	3.59	4.23	3.62	3.90	4.08	4.42	4.96	5.09	5.24	<b>5.65</b>	<b>6.00</b>	Earnings per sh <sup>A</sup>	<b>7.10</b>
1.64	1.64	1.71	1.85	1.88	1.95	2.03	2.15	2.27	2.39	2.53	2.71	2.84	3.00	3.17	3.37	<b>3.60</b>	<b>3.81</b>	Div'd Decl'd per sh <sup>B</sup> = †	<b>4.16</b>
9.83	6.19	5.07	5.74	6.45	7.75	8.68	9.37	9.98	11.79	12.89	12.43	12.72	11.43	13.18	13.89	<b>14.15</b>	<b>14.10</b>	Cap'l Spending per sh	<b>14.00</b>
26.33	27.49	28.33	30.33	31.37	32.98	34.37	36.44	35.38	37.17	38.58	39.73	41.38	44.49	46.60	48.46	<b>55.05</b>	<b>58.90</b>	Book Value per sh <sup>C</sup>	<b>62.55</b>
406.07	478.05	480.81	483.42	485.67	487.78	489.40	491.05	491.71	492.01	493.25	494.17	496.60	504.21	513.87	526.18	<b>530.00</b>	<b>535.00</b>	Common Shs Outst'g <sup>D</sup>	<b>550.00</b>
13.1	10.0	13.4	11.9	13.8	14.5	15.9	15.8	15.2	19.3	18.0	21.4	19.6	17.1	21.1	16.2	<b>14.15</b>	<b>14.10</b>	Avg Ann'l P/E Ratio	<b>18.0</b>
.79	.67	.85	.75	.88	.81	.84	.80	.80	.97	.97	1.14	1.01	.92	1.23	.93	<b>1.23</b>	<b>1.23</b>	Relative P/E Ratio	<b>1.00</b>
4.2%	5.5%	4.9%	5.0%	4.6%	4.2%	3.8%	3.8%	3.5%	3.4%	3.6%	3.1%	3.3%	3.5%	3.3%	4.5%	<b>4.5%</b>	<b>4.5%</b>	Avg Ann'l Div'd Yield	<b>3.3%</b>

CAPITAL STRUCTURE as of 6/30/24		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Revenues (\$mill)	24000
Total Debt \$41672 mill. Due in 5 Yrs \$12886 mill.		17020	16453	16380	15425	16196	15561	14919	16792	19640	18982	<b>20300</b>	<b>21500</b>	Revenues (\$mill)	24000						
LT Debt \$39990 mill. LT Interest \$1400 mill.		1634.0	1763.4	2073.6	1783.2	1923.8	2019.0	2200.1	2448.1	2307.2	2208.1	<b>2970</b>	<b>3210</b>	Net Profit (\$mill)	3960						
Leases, Uncapitalized Annual rentals \$119.6 mill.		37.8%	35.1%	26.8%	33.7%	5.8%	.7%	1.9%	4.6%	NMF	NMF	<b>21.0%</b>	<b>21.0%</b>	Income Tax Rate	21.0%						
Pfd Stock None		9.0%	11.0%	8.0%	8.0%	10.7%	12.7%	9.7%	7.8%	7.0%	7.0%	<b>7.0%</b>	<b>6.5%</b>	AFUDC % to Net Profit	5.0%						
Common Stock 532,119,995 shs.		49.0%	49.8%	50.0%	51.5%	53.2%	56.1%	58.5%	58.3%	58.5%	58.2%	<b>58.0%</b>	<b>58.0%</b>	Long-Term Debt Ratio	57.5%						
MARKET CAP: \$52.7 billion (Large Cap)		51.0%	50.2%	50.0%	48.5%	46.8%	43.9%	41.5%	41.7%	42.0%	42.0%	<b>42.0%</b>	<b>42.0%</b>	Common Equity Ratio	42.5%						
ELECTRIC OPERATING STATISTICS		33001	35633	34775	37707	40677	44759	49537	53734	57520	62837	<b>68900</b>	<b>70730</b>	Total Capital (\$mill)	75900						
Capacity at Peak (Mw)		44117	46133	45639	50262	55099	60138	63902	66001	71283	76693	<b>78000</b>	<b>81250</b>	Net Plant (\$mill)	87300						
Annual Load Factor (%)		6.3%	6.1%	7.2%	5.9%	5.9%	5.6%	5.6%	5.6%	4.0%	3.6%	<b>4.5%</b>	<b>4.5%</b>	Return on Total Cap'l	5.0%						
% Change Customers (yr-end)		9.7%	9.9%	11.9%	9.8%	10.1%	10.3%	10.7%	11.1%	9.7%	8.7%	<b>10.0%</b>	<b>10.0%</b>	Return on Shr. Equity	11.0%						
Fixed Charge Cov. (%)		9.7%	9.9%	11.9%	9.8%	10.1%	10.3%	10.7%	11.1%	9.7%	8.7%	<b>10.0%</b>	<b>10.0%</b>	Return on Com Equity	11.0%						
ANNUAL RATES		3.8%	3.9%	5.5%	3.2%	3.5%	3.4%	3.8%	4.3%	2.9%	2.4%	<b>4.0%</b>	<b>4.0%</b>	Retained to Com Eq	4.5%						
of change (per sh)		61%	60%	54%	67%	65%	67%	65%	61%	70%	63%	<b>63%</b>	<b>63%</b>	All Div'ds to Net Prof	61%						

**BUSINESS:** American Electric Power Company Inc. (AEP), through 10 operating utilities, serves 5.5 million customers in Arkansas, Kentucky, Indiana, Louisiana, Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia, & West Virginia. Has a transmission subsidiary. Electric revenue breakdown: residential, 43%; commercial, 23%; industrial, 18%; wholesale, 10%; other, 6%. Sold commercial

**American Electric Power looks poised to deliver strong earnings growth this year and next.** The company will likely continue to benefit from a number of pending rate cases, along with increased investments in its transmission business, and elevated volume and power demand. Second-quarter earnings-per-share of \$1.25 outperformed Wall Street's expectations by a slim margin, in large part due to the aforementioned factors. And, management reaffirmed its 2024 bottom-line target of \$5.53 to \$5.73, as well as its long-term annual profit growth rate of 6%-7%. Accordingly, we have raised our 2024 earnings estimate by \$0.05, while our 2025 projections are staying put.

**AEP recently committed to raising its electrical load profile by more than 40% over the next several years.** Indeed, in late July, the utility signed letters of intent to connect an additional 15 gigawatts of data centers by the end of the decade. A majority of the new data centers the company will supply will be located in Ohio and Texas. Remember, data centers are expected to double the power demand in the utility's Ohio region within the next five years. The new data center load and the boost in power demand from artificial intelligence innovations is set to rise exponentially through 2030, and AEP is now even better positioned to take advantage of this.

**The infrastructure and electricity build up costs will be massive.** In May, AEP filed a proposal with Ohio regulators to require data center developers to make a 10-year commitment and pay for a minimum of 90% of the energy used before AEP builds and invests billions on transmission. AEP also recently proposed an agreement that would increase customers rates for the construction of Intel's Ohio One Project, which will help meet the growing demand for semiconductors and reduce reliance on overseas production. While the rollout will be challenging, AEP looks to be set up nicely to benefit from the exponential boost in power demand moving forward.

**We think only income-seeking investors should look here.** The issue doesn't stand out for the next 18 months or the 2027-2029 period, though.

*Zachary J. Hodgkinson September 6, 2024*

Cal-endar	QUARTERLY REVENUES (\$ mill.) <sup>E</sup>	Full Year
	Mar.31 Jun.30 Sep.30 Dec.31	Year
2021	4281 3826 4623 4061	16792
2022	4593 4640 5526 4881	19640
2023	4690 4373 5342 4577	18982
2024	5026 4579 <b>5450</b> <b>5245</b>	<b>20300</b>
2025	<b>5250</b> <b>4850</b> <b>5800</b> <b>5600</b>	<b>21500</b>

Cal-endar	EARNINGS PER SHARE <sup>A</sup>	Full Year
	Mar.31 Jun.30 Sep.30 Dec.31	Year
2021	1.15 1.15 1.59 1.07	4.96
2022	1.22 1.20 1.62 1.05	5.09
2023	1.11 1.13 1.77 1.23	5.24
2024	1.27 1.25 <b>1.83</b> <b>1.30</b>	<b>5.65</b>
2025	<b>1.50</b> <b>1.40</b> <b>1.80</b> <b>1.30</b>	<b>6.00</b>

Cal-endar	QUARTERLY DIVIDENDS PAID <sup>B</sup> = †	Full Year
	Mar.31 Jun.30 Sep.30 Dec.31	Year
2020	.70 .70 .70 .74	2.84
2021	.74 .74 .74 .78	3.00
2022	.78 .78 .78 .83	3.17
2023	.83 .83 .83 .88	3.37
2024	.88 .88 .88 .88	

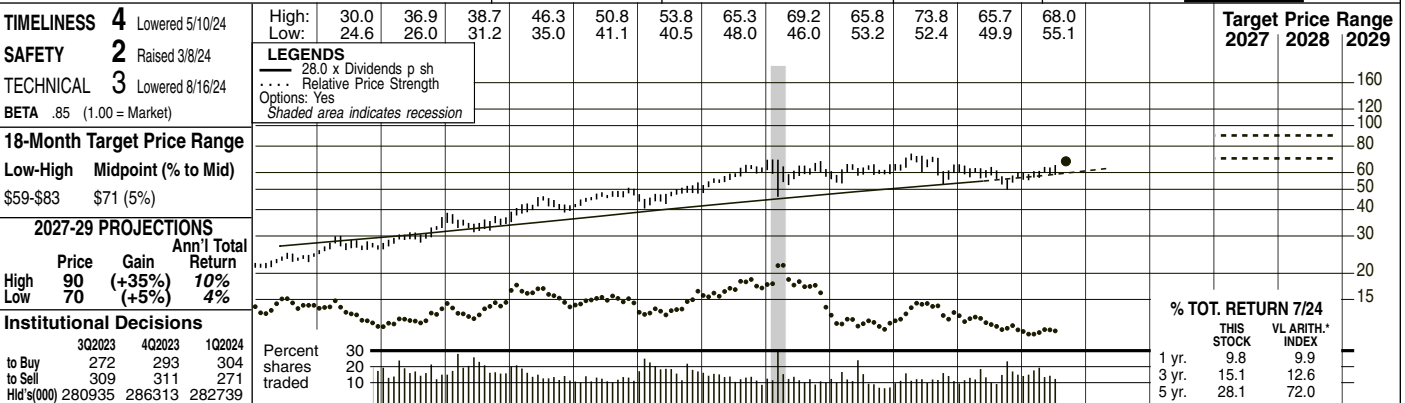
(A) Diluted EPS. Excl. nonrec. gains (losses): '08, 40c; '10, (7c); '11, 89c; '12, (38c); '13, (14c); '16, (\$2.99); '17, 26c; '19, (20c); gains (loss) from disc. ops.: '08, 3c; '15, 58c; '16, (1c); '22, (58c); '23, (34c). Next earnings report due late October. (B) Div'ds paid early Mar., June, Sept., & Dec. (C) Div'd reinvestment plan avail. † Shareholder invest. plan avail. (D) In mill. (E) Rev. may not sum due to rounding.

**Company's Financial Strength** A  
**Stock's Price Stability** 95  
**Price Growth Persistence** 70  
**Earnings Predictability** 90

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# CMS ENERGY CORP. NYSE-CMS

RECENT PRICE **67.71** P/E RATIO **20.6** (Trailing: 20.8 Median: 21.0) RELATIVE P/E RATIO **1.13** DIV'D YLD **3.0%** VALUE LINE



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
30.13	27.23	25.77	25.59	23.90	24.68	26.09	23.29	22.92	23.37	24.25	24.11	23.12	25.29	29.51	25.35	<b>26.15</b>	<b>26.80</b>	Revenues per sh	<b>31.50</b>
3.88	3.47	3.70	3.65	3.82	4.06	4.22	4.59	4.88	5.29	5.61	5.89	6.24	6.42	6.69	6.98	<b>7.60</b>	<b>8.25</b>	"Cash Flow" per sh	<b>9.25</b>
1.23	.93	1.33	1.45	1.53	1.66	1.74	1.89	1.98	2.17	2.32	2.39	2.64	2.58	2.84	3.01	<b>3.30</b>	<b>3.60</b>	Earnings per sh <sup>A</sup>	<b>4.00</b>
.36	.50	.66	.84	.96	1.02	1.08	1.16	1.24	1.33	1.43	1.53	1.63	1.74	1.84	1.95	<b>2.08</b>	<b>2.25</b>	Div'd Decl'd per sh <sup>B</sup>	<b>2.50</b>
3.50	3.59	3.29	3.47	4.65	4.98	5.73	5.64	5.99	5.91	7.32	7.41	8.02	7.16	8.15	8.18	<b>12.00</b>	<b>12.50</b>	Cap'l Spending per sh	<b>10.00</b>
10.88	11.42	11.19	11.92	12.09	12.98	13.34	14.21	15.23	15.77	16.78	17.68	19.02	22.11	23.32	24.86	<b>27.00</b>	<b>29.51</b>	Book Value per sh <sup>C</sup>	<b>31.75</b>
226.41	227.89	249.60	254.10	264.10	266.10	275.20	277.16	279.21	281.65	283.37	283.86	288.94	289.76	291.27	294.40	<b>300.00</b>	<b>300.50</b>	Common Shs Outst'g <sup>D</sup>	<b>301.00</b>
10.9	13.6	12.5	13.6	15.1	16.3	17.3	18.3	20.9	21.3	20.3	24.3	23.3	23.6	22.9	19.6	<i>Bold figures are Value Line estimates</i>		Avg Ann'l P/E Ratio	<b>20.0</b>
.66	.91	.80	.85	.96	.92	.91	.92	1.10	1.07	1.10	1.29	1.20	1.28	1.32	1.10			Relative P/E Ratio	<b>1.10</b>
2.7%	4.0%	4.0%	4.3%	4.2%	3.8%	3.6%	3.4%	3.0%	2.9%	3.0%	2.6%	2.6%	2.9%	2.8%	3.3%			Avg Ann'l Div'd Yield	<b>3.1%</b>

**CAPITAL STRUCTURE as of 6/30/24**  
**LT Debt \$15822 mill. Due in 5 Yrs \$2771 mill.**  
**LT Debt \$15050 mill. LT Interest \$680 mill.**  
 Incl. \$79 mill. finance leases.  
**Leases, Uncapitalized** Annual rentals \$5 mill.  
**Pension Assets-12/23** \$3004 mill. **Oblig** \$2195 mill.  
**Pfd Stock** \$224 mill. **Pfd Div'd** \$10 mill.  
 Incl. 373,148 shs. \$4.50 \$100 par, cum., callable at \$110.00; 9,200,000 shs. 4.2%, \$25 par, cum.  
**Common Stock** 298,729,438 shs.  
**as of 7/8/24**  
**MARKET CAP: \$20.2 billion (Large Cap)**

**ELECTRIC OPERATING STATISTICS**

	2021	2022	2023
% Change Retail Sales (KWH)	+2.4	+3.0	-1.0
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (c)	8.46	8.78	8.90
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	7951	8061	8067
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.0	+1.0	+1.0

**ANNUAL RATES** Past 10 Yrs. Past 5 Yrs. Est'd '21-'23 of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23
Revenues	1.0%	2.5%	3.0%
"Cash Flow"	5.5%	5.0%	5.5%
Earnings	6.0%	5.5%	6.0%
Dividends	7.0%	6.5%	5.0%
Book Value	6.5%	8.0%	5.0%

**QUARTERLY REVENUES (\$ mill.)**

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	2013	1558	1725	2033	7329
2022	2374	1920	2024	2278	8596
2023	2284	1555	1673	1950	7462
2024	2176	1607	1870	2197	7850
2025	<b>2200</b>	<b>1700</b>	<b>1950</b>	<b>2210</b>	<b>8060</b>

**EARNINGS PER SHARE <sup>A</sup>**

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	1.09	.55	.54	.40	2.58
2022	1.20	.50	.56	.58	2.84
2023	.69	.67	.60	1.05	3.01
2024	.96	.65	.75	.94	3.30
2025	<b>.95</b>	<b>.85</b>	<b>.80</b>	<b>1.00</b>	<b>3.60</b>

**QUARTERLY DIVIDENDS PAID <sup>B</sup>**

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.4075	.4075	.4075	.4075	1.63
2021	.435	.435	.435	.435	1.74
2022	.46	.46	.46	.46	1.84
2023	.4875	.4875	.4875	.4875	1.95
2024	.515	.515	.515		

**BUSINESS:** CMS Energy Corporation is a holding company for Consumers Energy, which supplies electricity and gas to lower Michigan (excluding Detroit). Has 1.9 million electric, 1.8 million gas customers. Has 2,016 megawatts of nonregulated generating capacity. Sold EnerBank in '21. Electric revenue breakdown: residential, 47%; commercial, 33%; industrial, 14%; other, 6%. Generating

**CMS Energy registered mixed second-quarter results.** The top line increased over 3% year over year, to \$1.607 billion thanks to better electric utility revenue that offset weaker gas utility performance. However, the bottom line slipped 3% from the year-ago period, to \$0.65 per share due to higher operating costs and increased interest expenses.

**In May, Consumers Energy, a subsidiary of CMS, filed a new electric rate case with the Michigan Public Service Commission (MPSC).** The company is seeking a total rate increase of \$325 million. The majority of the request, \$303 million, is based on a 10.25% return on equity (ROE) projected for a 12-month period ending in February 2026. The remaining \$22 million is intended to recover costs related to distribution investments made last year, exceeding previously authorized rates. This request aims to allow Consumers Energy to recoup these additional expenses.

**Meanwhile, the MPSC also approved a previously filed gas rate case.** Last year, Consumers Energy requested a \$136 million annual rate increase based on a

10.25% ROE for the test year ending in September 2025. In May 2024, management revised the request to \$113 million. Ultimately, the regulator approved a settlement in July, 2024, granting a \$35 million annual rate increase with a 9.9% ROE. The settlement also included a \$27.5 million offset from the sale of Consumers' unregulated appliance service plan business, bringing the total effective rate relief to \$62.5 million for the test year. The new rates will take effect this October.

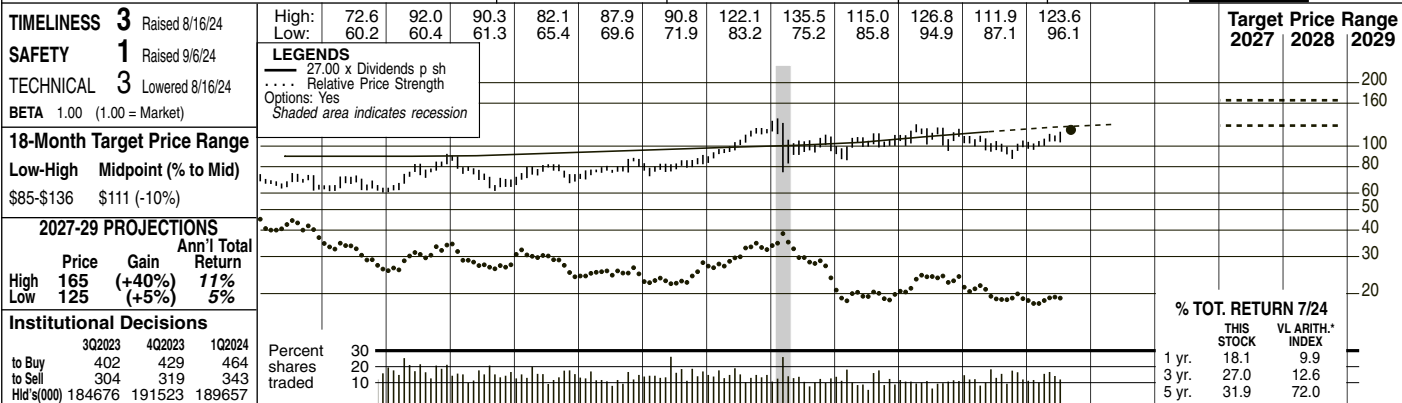
**The subsidiary has also received approval to expand its clean energy presence.** Consumers Energy is preparing to supply renewable energy to its customers starting in 2025, utilizing sources such as wind and solar power.

**Shares of CMS Energy are ranked to trail the broader market averages in the year ahead.** Also, at present, the equity has subpar capital appreciation potential to 2027-2029. The company has a solid track record of stable operational performance and consistent dividend increases, though its dividend yield is below average for a utility stock.

*Emma Jalees*  
September 6, 2024

(A) Diluted GAAP EPS. Excl. nonrec. gains (losses): '09, (7c); '10, 3c; '11, 12c; '12, (14c); '17, (53c); gains (losses) on disc. ops.: '09, 8c; '10, (8c); '11, 1c; '12, 3c; '21, \$2.08; '22, 1c. (B) Div'ds historically paid late Feb., May, Aug., & Nov. ■ Div'd reinvestment plan avail. (C) Incl. intang. In '23: \$8.52/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate all'd on com. eq. in '22: 9.9% elec.; in '19: 9.9% gas; earned on avg. com. eq., '21: 13.2%. Regulatory Climate: Above Average. Company's Financial Strength B++ Stock's Price Stability 95 Price Growth Persistence 80 Earnings Predictability 90

**ENTERGY CORP.** NYSE-ETR **RECENT PRICE 119.50** **P/E RATIO 20.8** (Trailing: 14.3; Median: 14.0) **RELATIVE P/E RATIO 1.14** **DIV'D YLD 3.8%** **VALUE LINE**



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
69.15	56.82	64.27	63.67	57.94	63.86	69.71	64.54	60.55	61.35	58.23	54.63	50.51	57.95	65.18	57.07	<b>56.40</b>	<b>59.00</b>	Revenues per sh	<b>69.90</b>
12.89	13.29	16.54	17.53	15.98	16.25	17.68	17.71	18.72	16.70	16.50	17.19	18.21	17.90	15.51	21.53	<b>16.20</b>	<b>18.05</b>	"Cash Flow" per sh	<b>21.35</b>
6.20	6.30	6.66	7.55	6.02	4.96	5.77	5.81	6.88	5.19	5.88	6.30	6.90	6.87	5.37	11.10	<b>4.50</b>	<b>6.85</b>	Earnings per sh <sup>A</sup>	<b>8.05</b>
3.00	3.00	3.24	3.32	3.32	3.32	3.32	3.34	3.42	3.50	3.58	3.66	3.74	3.86	4.10	4.34	<b>4.56</b>	<b>4.70</b>	Div'd Decl'd per sh <sup>B</sup> = †	<b>5.00</b>
13.92	12.99	13.33	15.21	18.18	15.73	14.82	16.79	17.28	22.07	22.45	21.72	24.52	30.86	25.04	20.86	<b>21.00</b>	<b>22.00</b>	Cap'l Spending per sh	<b>19.75</b>
42.07	45.54	47.53	50.81	51.73	54.00	55.83	51.89	45.12	44.28	46.78	51.34	54.56	57.42	61.40	68.70	<b>70.65</b>	<b>73.65</b>	Book Value per sh <sup>C</sup>	<b>84.65</b>
189.36	189.12	178.75	176.36	177.81	178.37	179.24	178.39	179.13	180.52	189.06	199.15	200.24	202.65	211.18	212.85	<b>218.00</b>	<b>222.00</b>	Common Shs Outst'g <sup>D</sup>	<b>230.00</b>
16.6	12.0	11.6	9.1	11.2	13.2	12.9	12.5	10.9	15.0	13.8	16.5	15.3	15.0	21.1	9.1	<b>10.1</b>	<b>9.1</b>	Avg Ann'l P/E Ratio	<b>18.0</b>
1.00	.80	.74	.57	.71	.74	.68	.63	.57	.75	.75	.88	.79	.81	1.22	.51	<b>1.22</b>	<b>.51</b>	Relative P/E Ratio	<b>1.00</b>
2.9%	4.0%	4.2%	4.9%	4.9%	5.1%	4.5%	4.6%	4.6%	4.5%	4.4%	3.5%	3.6%	3.7%	3.6%	4.3%	<b>3.6%</b>	<b>4.3%</b>	Avg Ann'l Div'd Yield	<b>3.7%</b>

CAPITAL STRUCTURE as of 6/30/24		2021	2022	2023	BUSINESS:		12%		Generating sources:		2021	2022	2023	Revenues (\$mill)		16070
Total Debt \$28751 mill. Due in 5 Yrs \$11117 mill.		12495	11513	10846	Entergy Corporation supplies electricity to 3 million customers through subsidiaries in Arkansas, Louisiana, Mississippi, Texas, and New Orleans (regulated separately from Louisiana). Distributes gas to 206,000 customers in Louisiana. Is selling its last nonutility nuclear unit (shut down 5/22). Electric revenue breakdown: residential, 37%; commercial, 24%; industrial, 27%; other,		12%		gas, 68%; nuclear, 22%; coal, 9%; hydro and solar, 1%. Fuel costs: 32% of revenues. '23 reported depreciation rate: 2.7%. Has 11,707 employees. Chairman & CEO: Leo P. Denault. Incorporated: Delaware. Address: 639 Loyola Avenue, P.O. Box 61000, New Orleans, Louisiana 70161. Telephone: 504-576-4000. Internet: www.entergy.com.		13764	12147	12300	13100		16070
LT Debt \$26301 mill. LT Interest \$1046.0 mill. Incl. \$54.7 mill. of securitization bonds. (LT interest earned: 2.5x)		1060.0	1061.2	1249.8	12%		12%		12%		1103.2	2356.5	980	1520		1850
Leases, Uncapitalized Annual rentals \$67.4 mill. Pension Assets-12/23 \$5469.6 mill. Oblig \$5915.4 mill.		37.8%	2.2%	11.3%	12%		12%		12%		16.1%	16.1%	20.0%	23.0%		23.0%
Pfd Stock \$219.4 mill. Pfd Div'd \$18.3 mill. 200,000 shs. 6.25%-7.5%, \$100 par; 250,000 shs. 8.75%, 1.4 mill. shs. 5.375%; all cum., without sinking fund.		9.3%	7.4%	8.1%	12%		12%		12%		2.5%	1.7%	2.0%	2.0%		2.0%
Common Stock 213,536,936 shs. as of 4/30/24 MARKET CAP: \$25.6 billion (Large Cap)		54.9%	57.8%	63.6%	12%		12%		12%		64.2%	60.8%	61.0%	61.0%		61.0%
ELECTRIC OPERATING STATISTICS		43.8%	40.8%	35.5%	12%		12%		12%		35.2%	38.6%	39.0%	39.0%		39.0%
% Change Retail Sales (KWH)		22842	22714	22777	12%		12%		12%		36810	37851	39995	42400		50555
Total Indust. Use (GWH)		28723	27824	27921	12%		12%		12%		42477	43834	46465	49255		58660
Avg. Indust. Revs. per KWH(c)		6.0%	6.0%	6.9%	12%		12%		12%		4.3%	7.6%	3.5%	4.5%		6.0%
Capacity at Peak (Mw)		10.3%	11.1%	15.1%	12%		12%		12%		8.4%	15.9%	6.5%	9.0%		9.5%
Peak Load, Summer (Mw)		10.4%	11.2%	15.2%	12%		12%		12%		8.4%	16.0%	6.5%	9.0%		9.5%
Annual Load Factor (%)		4.4%	4.8%	7.7%	12%		12%		12%		1.9%	9.7%	6.0%	3.9%		3.5%
% Change Customers (yr-end)		58%	58%	50%	12%		12%		12%		78%	40%	101%	69%		62%

Cal-endar	QUARTERLY REVENUES (\$ mill.)				Full Year
	Mar.31	Jun.30	Sep.30	Dec.31	
2021	2845	2822	3353	2723	11743
2022	2878	3395	4219	3273	13764
2023	2981	2846	3596	2725	12147
2024	2795	2954	3400	3151	12300
2025	3000	3500	3400	3200	13100

Cal-endar	EARNINGS PER SHARE <sup>A</sup>				Full Year
	Mar.31	Jun.30	Sep.30	Dec.31	
2021	1.66	1.30	2.63	1.28	6.87
2022	1.36	.78	2.74	.51	5.37
2023	1.47	1.84	3.14	4.66	11.10
2024	.35	.23	2.92	1.00	4.50
2025	1.60	1.15	3.05	1.05	6.85

Cal-endar	QUARTERLY DIVIDENDS PAID <sup>B</sup> = †				Full Year
	Mar.31	Jun.30	Sep.30	Dec.31	
2020	.93	.93	.93	.95	3.74
2021	.95	.95	.95	1.01	3.86
2022	1.01	1.01	1.01	1.07	4.10
2023	1.07	1.07	1.07	1.13	4.34
2024	1.13	1.13	1.13		

**Entergy recorded lackluster second-quarter results.** Revenues expanded to around \$2.95 billion as the company gained from increased retail sales during the quarter. Additionally, a few regulatory filings helped to grow the take over the quarter. Meanwhile, fuel costs were lower than in the year prior, while the expenses related to purchased power declined. There were more regulatory charges, which caused operating profits to fall. It also recorded a \$325 million charge related to a non-cash pension settlement, while interest costs increased due to a greater debt load. Overall, these factors caused a smaller profit of \$0.23 per share.

**We think that operations will be steady over the back half of 2024.** Revenues will likely benefit from higher levels of retail usage, while several businesses have signed up for power. Still, operations were disrupted in the early third quarter by Hurricane Beryl, which caused some outages and required higher maintenance spending, though we posit much of this will be recoverable. Overall, we project that earnings will only reach \$4.50 per share this year.

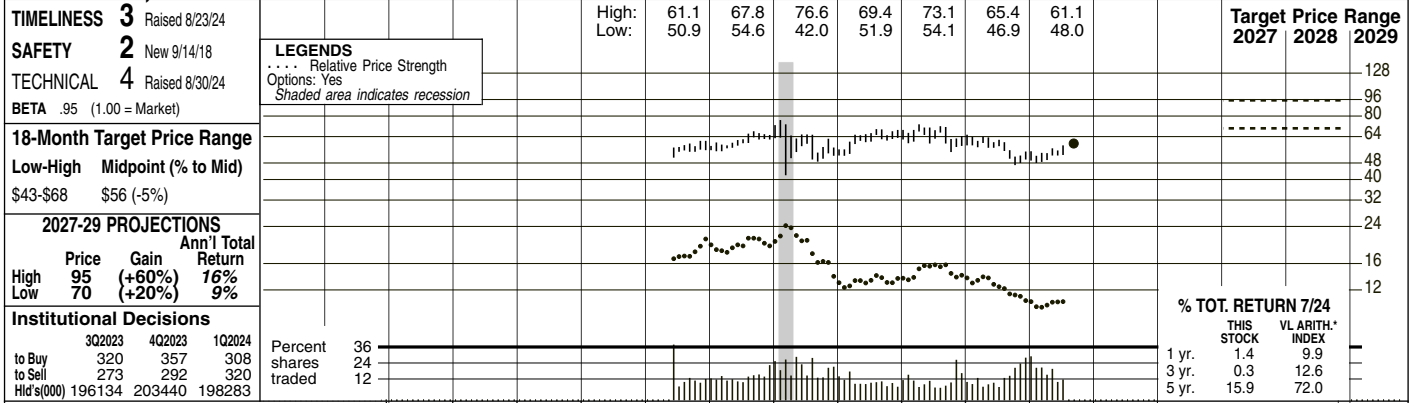
**The long-term outlook is pretty bright here.** Revenues will likely expand at a decent clip, as we expect a few trends to encourage demand. More people are moving to the Texas and Louisiana coverage areas, and several large businesses are building operations in the region, including new hyperscale data centers. Additionally, the company should benefit from its capital projects, which should include new solar and clean energy projects, including the Lone Star Power Station, which will be hydrogen-capable and should ultimately allow for less energy to be purchased. However, maintenance and depreciation costs will probably rise. In the meantime, interest expense will likely be higher as the debt load increases. Even so, we think profits will rebound to \$6.85 per share in 2025 and reach \$8.05 per share in 2027-2029.

**Shares of Entergy are neutrally ranked for Timeliness.** The stock has modest long-term appreciation potential, but the dividend yield is above average. Thus, the equity is best suited for conservative, income-seeking accounts.

*John E. Seibert III* September 6, 2024

(A) Diluted EPS. GAAP starting in 2022. Excl. nonrec. losses: '12, \$1.26; '13, \$1.14; '14, \$6c; '15, \$6.99; '16, \$10.14; '17, \$2.91; '18, \$1.25; '21, \$1.33. Next earnings report due early November. (B) Div'ds historically paid in early Mar., June, Sept., & Dec. = Div'd reinvestment plan avail. † Shareholder investment plan avail. (C) Incl. deferred charges. In '23: \$26.66/sh. (D) In mill. (E) Rate base: Net original cost. Allowed ROE (blended): 9.71%; earned on avg. com. eq., '23: 16.0%. Regulatory Climate: Average.

**EVERGY, INC.** NYSE-EVRG **RECENT PRICE 59.27** **P/E RATIO 14.9** (Trailing: 18.5 Median: NMF) **RELATIVE P/E RATIO 0.81** **DIV'D YLD 4.4%** **VALUE LINE**



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC 27-29
Evergy, Inc. was formed through the merger of Great Plains Energy and Westar Energy in June of 2018. Great Plains Energy holders received .5981 of a share of Evergy for each of their shares, and Westar Energy holders received one share of Evergy for each of their shares. The merger was completed on June 4, 2018. Shares of Evergy began trading on the New York Stock Exchange one day later.	--	--	--	--	16.75	22.71	21.66	24.36	25.49	23.98	<b>25.35</b>	<b>26.10</b>	Revenues per sh <b>28.90</b>
	--	--	--	--	4.89	7.18	7.06	8.18	7.34	8.33	<b>7.95</b>	<b>8.50</b>	"Cash Flow" per sh <b>9.20</b>
	--	--	--	--	2.50	2.79	2.72	3.83	3.26	3.17	<b>3.85</b>	<b>4.05</b>	Earnings per sh <sup>A</sup> <b>4.70</b>
	--	--	--	--	1.74	1.93	2.05	2.18	2.33	2.48	<b>2.61</b>	<b>2.74</b>	Div'd Decl'd per sh <sup>B</sup> <b>3.05</b>
	--	--	--	--	4.19	5.34	6.88	8.60	9.41	9.23	<b>9.25</b>	<b>9.30</b>	Cap'l Spending per sh <b>9.50</b>
	--	--	--	--	39.28	37.82	38.50	40.32	41.86	42.06	<b>44.10</b>	<b>45.65</b>	Book Value per sh <sup>C</sup> <b>47.50</b>
	--	--	--	--	255.33	226.64	226.84	229.30	229.90	229.73	<b>230.00</b>	<b>230.00</b>	Common Shs Outst'g <sup>D</sup> <b>230.00</b>
	--	--	--	--	22.7	21.8	21.7	16.2	19.9	18.0	<i>Bold figures are Value Line estimates</i>		Avg Ann'l P/E Ratio <b>17.5</b>
	--	--	--	--	1.23	1.16	1.11	.88	1.15	1.01			Relative P/E Ratio <b>.95</b>
	--	--	--	--	3.1%	3.2%	3.5%	3.5%	4.0%	5.1%			Avg Ann'l Div'd Yield <b>3.7%</b>
<b>CAPITAL STRUCTURE as of 6/30/24</b>													
Total Debt \$12774 mill. Due in 5 Yrs \$4388 mill.	--	--	--	--	4275.9	5147.8	4913.4	5586.7	5859.1	5508.2	<b>5830</b>	<b>6000</b>	Revenues (\$mill) <b>6650</b>
LT Debt \$11955 mill. LT Interest \$306 mill.	--	--	--	--	535.8	669.9	618.3	879.7	752.7	731.3	<b>830</b>	<b>920</b>	Net Profit (\$mill) <b>1060</b>
Incl. \$40.9 mill. finance leases. (LT interest earned: 3.8x)	--	--	--	--	9.8%	12.6%	14.1%	11.7%	5.8%	2.1%	<b>4.5%</b>	<b>6.5%</b>	Income Tax Rate <b>9.0%</b>
Leases, Uncapitalized Annual rentals \$18.8 mill.	--	--	--	--	2.5%	2.5%	5.5%	5.0%	5.1%	5.4%	<b>6.0%</b>	<b>6.0%</b>	AFUDC % to Net Profit <b>5.0%</b>
Pension Assets-12/22 \$1714.7 mill.	--	--	--	--	40.0%	50.6%	51.3%	50.1%	50.0%	51.5%	<b>51.5%</b>	<b>52.0%</b>	Long-Term Debt Ratio <b>53.5%</b>
Pfd Stock None	--	--	--	--	60.0%	49.4%	48.7%	49.9%	48.0%	48.0%	<b>48.5%</b>	<b>48.0%</b>	Common Equity Ratio <b>46.5%</b>
Obilig \$2561.7 mill.	--	--	--	--	16716	17337	17924	18542	19668	20019	<b>21250</b>	<b>22500</b>	Total Capital (\$mill) <b>23400</b>
	--	--	--	--	18952	19346	20106	21150	22277	23729	<b>24200</b>	<b>25300</b>	Net Plant (\$mill) <b>26300</b>
Common Stock 229,958,436 shs.	--	--	--	--	4.0%	4.8%	4.5%	5.7%	6.9%	6.4%	<b>5.5%</b>	<b>5.5%</b>	Return on Total Cap'l <b>6.0%</b>
MARKET CAP: \$13.6 billion (Large Cap)	--	--	--	--	5.3%	7.8%	7.1%	9.5%	8.1%	7.6%	<b>9.0%</b>	<b>9.0%</b>	Return on Shr. Equity <b>10.0%</b>
	--	--	--	--	5.3%	7.8%	7.1%	9.5%	8.1%	7.6%	<b>9.0%</b>	<b>9.0%</b>	Return on Com Equity <sup>E</sup> <b>10.0%</b>
	--	--	--	--	.6%	2.4%	1.8%	4.1%	3.1%	2.5%	<b>3.0%</b>	<b>3.0%</b>	Retained to Com Eq <b>3.5%</b>
	--	--	--	--	89%	69%	75%	57%	73%	69%	<b>68%</b>	<b>68%</b>	All Div'ds to Net Prof <b>63%</b>

**ELECTRIC OPERATING STATISTICS**

	2020	2021	2022
% Change Retail Sales (KWH)	-3.9	+3.1	+6.7
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (c)	7.14	6.94	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA

**BUSINESS:** Evergy, Inc. was formed through the merger of Great Plains Energy and Westar Energy in June of 2018. Through its subsidiaries (now doing business under the Evergy name), provides electric service to 1.6 million customers in Kansas and Missouri, including the greater Kansas City area. Electric revenue breakdown: residential, 32%; commercial, 27%; industrial, 15%; wholesale, 13%; other, 13%. Generating sources: coal, 54%; nuclear, 17%; purchased, 29%. Fuel costs: 28% of revenues. '23 reported deprec. rate: 3%. Has 4,900 employees. Chairman: Mark A. Ruelle. President & CEO: David A. Campbell. COO: Kevin E. Bryant. Inc.: Missouri. Address: 1200 Main Street, Kansas City, Missouri 64105. Tel.: 816-556-2200. Internet: www.evergy.com.

**Evergy's earnings look poised to be substantially higher in 2024.** Indeed, the utility posted nice second-quarter results. Revenues of \$1.45 billion and earnings of \$0.90 per share both topped our estimates and improved nicely from the year-earlier period. The strong performance was driven by the increased number of cooling degree days, recent transmission investments, and new retail rates in Kansas. As a result, we have adjusted our near-term estimates. We upped our full-year 2024 top-line estimate by \$30 million, to \$5.83 billion. We also boosted our bottom-line projection by a quarter to \$3.85 per share, which is right near the midpoint of Evergy's updated guidance range of \$3.73 to \$3.93 a share.

**We increased our full-year 2025 earnings estimate by a nickel.** While we look for slower growth compared to 2024, our projections are still within Evergy's long-term annual adjusted share-earnings growth target. Indeed, management reaffirmed its goal of 4% to 6% yearly profit growth from 2023 to 2026, and our 2025 estimate is right in the middle of this range. The utility should continue to benefit from investments in its transmission system over the next few years. And, Evergy is well-positioned over that interim to take advantage of elevated power demand due to data centers and AI innovations, as well as rate increases in a number of open cases.

**We expect a typical dividend hike in the fourth quarter.** We look for a boost of around \$0.04 a share in the quarterly distribution, and project healthy dividend growth over the 3- to 5-year period. Evergy continues to target a 60% to 70% payout ratio, and the current yield of 4.4% stands comfortably above the utility average, which is one of the highest dividend-paying industries in the market.

**These shares hold some appeal.** The yield is above average and long-term total return potential is worthwhile, on a risk-adjusted basis, in comparison to most of its peers. We look for the stock to trade around \$70-\$95 by 2027-2029, and think the company will earn \$4.70 a share by then. Meanwhile, the stock is ranked to mirror the broader market averages in the year ahead.

*Zachary J. Hodgkinson September 6, 2024*

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	.84	.81	1.95	.23	3.83
2022	.53	.84	1.86	.03	3.26
2023	.62	.78	1.53	.24	3.17
2024	.53	.90	1.93	.49	3.85
2025	.65	.95	1.95	.50	4.05

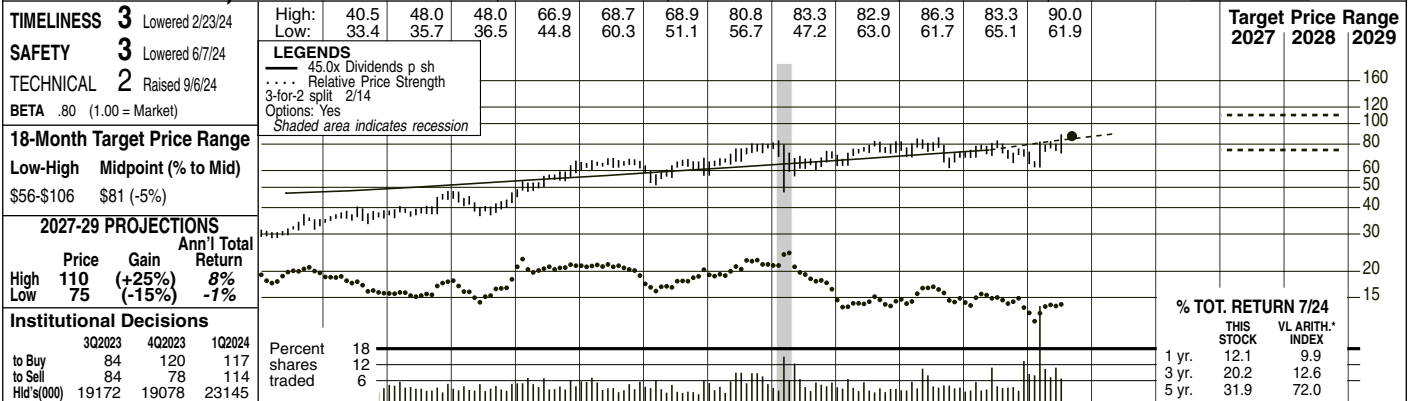
(A) Diluted earnings. Next earnings report due early Nov. (B) Dividends paid in mid-March, June, September, and December. (C) Dividend reinvestment plan available. (D) In millions. (E) Rate base: Original cost depreciated. Rate allowed on common equity in Missouri in '18: none specified; in Kansas in '18: 9.3%; earned on average common equity, '22: 9.8%. Regulatory Climate: Average.

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Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	25
Earnings Predictability	85

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**MGE ENERGY, INC.** NDQ-MGEE **RECENT PRICE 87.24** **P/E RATIO 23.1** (Trailing: 27.3; Median: 25.0) **RELATIVE P/E RATIO 1.26** **DIV'D YLD 2.1%** **VALUE LINE**



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
17.35	15.40	15.36	15.76	15.61	17.04	17.88	16.27	15.71	16.24	16.15	16.41	14.89	16.77	19.76	19.09	18.65	19.35	Revenues per sh	23.90
2.68	2.66	2.76	2.94	2.98	3.28	3.49	3.33	3.47	3.73	4.06	4.57	4.61	5.05	5.43	6.03	6.75	7.35	"Cash Flow" per sh	8.25
1.59	1.47	1.67	1.76	1.86	2.16	2.32	2.06	2.18	2.20	2.43	2.51	2.60	2.92	3.07	3.25	3.70	4.05	Earnings per sh <sup>A</sup>	4.65
.96	.97	.99	1.01	1.04	1.07	1.11	1.16	1.21	1.26	1.32	1.38	1.45	1.52	1.59	1.67	1.84	2.00	Div'd Decl'd per sh <sup>B</sup>	2.35
3.08	2.35	1.76	1.88	2.84	3.43	2.67	2.08	2.41	3.12	6.12	4.73	5.62	4.24	4.84	6.14	6.40	7.00	Cap'l Spending per sh	7.50
13.92	14.47	15.14	15.89	16.71	17.81	19.02	19.92	20.89	22.45	23.56	24.68	26.99	28.41	29.91	31.53	33.20	35.25	Book Value per sh <sup>C</sup>	41.25
34.36	34.67	34.67	34.67	34.67	34.67	34.67	34.67	34.67	34.67	34.67	34.67	36.16	36.16	36.16	36.16	36.18	36.18	Common Shs Outst'g <sup>D</sup>	36.18
14.2	15.1	15.0	15.8	17.2	17.0	17.2	20.3	24.9	29.4	25.1	28.4	26.4	25.5	24.7	22.9	<b>Bold figures are Value Line estimates</b>		Avg Ann'l P/E Ratio	19.5
.85	1.01	.95	.99	1.09	.96	.91	1.02	1.31	1.48	1.36	1.51	1.36	1.38	1.43	1.28			Relative P/E Ratio	1.10
4.2%	4.4%	4.0%	3.6%	3.2%	2.9%	2.8%	2.8%	2.2%	2.0%	2.2%	1.9%	2.1%	2.0%	2.1%	2.2%			Avg Ann'l Div'd Yield	2.5%

CAPITAL STRUCTURE as of 6/30/24		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Revenues (\$mill)	27-29
Total Debt \$721.7 mill. Due in 5 Yrs \$110.0 mill.		619.9	564.0	544.7	563.1	559.8	568.9	538.6	606.6	714.5	690.4	675	700	Revenues (\$mill)	865						
LT Debt \$716.5 mill. LT Interest \$35.0 mill.		80.3	71.3	75.6	76.1	84.2	86.9	92.4	105.8	111.0	117.7	135	145	Net Profit (\$mill)	170						
(LT interest earned: 4.8x)		37.5%	36.7%	36.0%	36.4%	24.6%	18.5%	17.4%	3.7%	19.1%	19.1%	19.0%	19.0%	Income Tax Rate	19.0%						
Leases, Uncapitalized Annual rentals \$2.0 mill.		5.7%	1.3%	2.1%	2.1%	5.2%	3.6%	8.7%	6.3%	6.3%	4.0%	4.0%	4.0%	AFUDC % to Net Profit	3.0%						
Pension Assets-12/23 \$404 mill. Oblig \$65.0 mill.		37.5%	36.2%	34.6%	33.8%	37.7%	38.0%	35.5%	38.1%	35.8%	39.3%	38.0%	37.0%	Long-Term Debt Ratio	35.0%						
Pfd Stock None		62.5%	63.8%	65.4%	66.2%	62.3%	62.0%	64.5%	61.9%	64.2%	60.7%	62.0%	63.0%	Common Equity Ratio	65.0%						
Common Stock 36,175,888 shs. as of 7/31/24		1054.7	1081.5	1106.9	1176.3	1310.0	1379.4	1512.8	1659.0	1684.0	1876.9	1925	2025	Total Capital (\$mill)	2300						
MARKET CAP: \$3.2 billion (Mid Cap)		1208.1	1243.4	1282.1	1341.4	1509.4	1642.7	1769.4	1878.8	1971.1	2128.2	2250	2500	Net Plant (\$mill)	2700						
ELECTRIC OPERATING STATISTICS		8.6%	7.5%	7.7%	7.3%	7.2%	7.1%	6.8%	7.1%	7.4%	7.1%	7.0%	7.0%	Return on Total Cap'l	7.5%						
% Change Retail Sales (KWH)		12.2%	10.3%	10.4%	9.8%	10.3%	10.2%	9.5%	10.3%	10.3%	10.3%	11.0%	11.5%	Return on Shr. Equity	11.5%						
Avg. Indust. Use (MWH)		12.2%	10.3%	10.4%	9.8%	10.3%	10.2%	9.5%	10.3%	10.3%	10.3%	11.0%	11.5%	Return on Com Equity <sup>E</sup>	11.5%						
Avg. Indust. Revs. per KWH (c)		6.4%	4.5%	4.7%	4.2%	4.7%	4.6%	4.2%	5.0%	4.9%	5.0%	5.5%	6.0%	Retained to Com Eq	5.5%						
Capacity at Peak (Mw)		48%	56%	55%	57%	54%	55%	56%	52%	52%	51%	50%	50%	All Div's to Net Prof	51%						
Peak Load, Summer (Mw)																					
Annual Load Factor (%)																					
% Change Customers (yr-end)																					

**BUSINESS:** MGE Energy, Inc. is a holding company for Madison Gas and Electric Company (MGE), which provides electric service to 163,000 customers in Dane County and gas service to 176,000 customers in seven counties in Wisconsin. Electric revenue breakdown: residential, 36%; commercial, 53%; industrial, 3%; other, 8%. Generating sources: coal, 40%; gas, 17%; renewables, 21%; purchased power, 22%. Fuel costs: 30% of revenues. '23 reported depreciation rates: electric, 3.8%; gas, 2.1%; nonregulated, 2.3%. Has about 700 employees. Chairman, President & CEO: Jeffrey M. Keebler. Incorporated: Wisconsin. Address: 133 South Blair Street, P.O. Box 1231, Madison, Wisconsin 53701-1231. Telephone: 608-252-7000. Internet: www.mgeenergy.com.

ANNUAL RATES	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23
of change (per sh)	5 Yrs.	5 Yrs.	to '27-'29
Revenues	1.5%	3.0%	4.5%
"Cash Flow"	6.0%	8.0%	7.0%
Earnings	5.0%	6.5%	7.0%
Dividends	4.5%	4.5%	6.5%
Book Value	6.0%	6.0%	5.5%

Cal-endar	QUARTERLY REVENUES (\$ mill.)				Full Year
	Mar.31	Jun.30	Sep.30	Dec.31	
2021	167.9	130.7	145.9	162.1	606.6
2022	209.0	152.3	163.4	189.8	714.5
2023	217.3	148.0	160.5	164.6	690.4
2024	191.3	145.7	165	173	675
2025	185	170	170	175	700

Cal-endar	EARNINGS PER SHARE <sup>A</sup>				Full Year
	Mar.31	Jun.30	Sep.30	Dec.31	
2021	.96	.63	.97	.36	2.92
2022	.96	.60	.93	.58	3.07
2023	.86	.79	1.05	.55	3.25
2024	.93	.66	1.15	.96	3.70
2025	1.00	1.00	1.00	1.05	4.05

Cal-endar	QUARTERLY DIVIDENDS PAID <sup>B</sup>				Full Year
	Mar.31	Jun.30	Sep.30	Dec.31	
2020	.352	.352	.37	.37	1.45
2021	.37	.37	.388	.388	1.52
2022	.388	.388	.408	.408	1.59
2023	.408	.408	.4275	.4275	1.67
2024	.4275	.4275	.450		

**MGE Energy registered soft second-quarter results.** The top line fell slightly year over year, to \$145.7 million. This decrease was primarily driven by a 4% drop in electric residential sales and an 8% decline in gas retail sales. Meanwhile, GAAP earnings per share fell over 16% from 2023, to \$0.66 per share. The decrease in earnings was mainly due to lower electric net income, which was pressured by unfavorable weather conditions and higher fuel costs. Plus, warmer weather contributed to a reduction in gas earnings.

**We expect the bottom line to stay healthy in the near term.** Indeed, the company experienced elevated costs in the latest quarter. Still, share profits should benefit from rate relief and proactive cost management. In all, we estimate 2024 share earnings will advance 14%, to \$3.70. Moreover, MGE filed a 2025 fuel cost plan with the Public Service Commission of Wisconsin in June. The plan is expected to lower fuel costs in 2025 and limit the electric rate increase to 2.47%. A regulatory decision is anticipated by the end of this year. All told, we estimate 2025 earnings

per share will increase at a high single-digit clip, to \$4.05.

**The utility remains committed to promoting sustainability.** MGE aims to reduce carbon emissions by 80% by 2030 and achieve net-zero carbon electricity generation by 2050. Key initiatives to reach these goals include retiring coal-fired power plants and expanding its clean energy portfolio. MGE is currently constructing several solar and battery projects for this transition. These capital investments should strengthen the company's position in future rate relief negotiations.

**MGE Energy's board raised the dividend.** The quarterly per-share amount was increased to \$0.450, up 5.3% from the year-ago tally. Although the dividend yield of 2.1% remains modest for a utility stock, it's encouraging to see consistent dividend growth over the past several years.

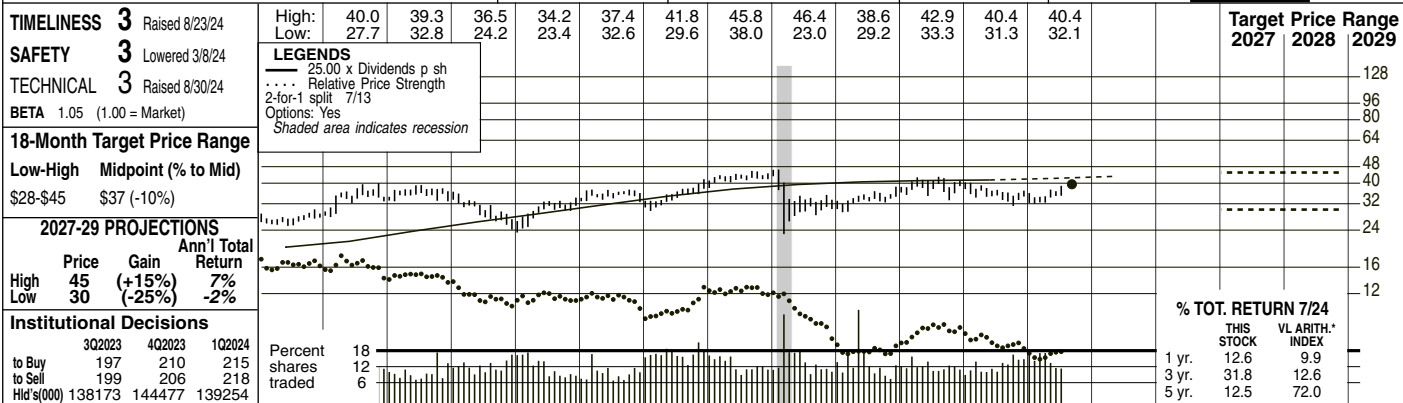
**Shares of MGE Energy are ranked to mirror the broader market averages in the year ahead.** The recent quotation is within our 2027-2029 target, indicating that the equity's long-term capital appreciation potential is modest.

*Emma Jalees* *September 6, 2024*

(A) GAAP Diluted earnings. Excludes non-recurring gain: '17, 62c. Quarterly earnings may not sum to full year due to rounding or share count change. Next earnings report due late October. (B) Div's historically paid in mid-March, June, September, and December. Div'd reinvestment plan avail. (C) Includes regulatory assets. In '23: \$102.3 mill., \$2.83/sh. (D) In millions, adj for split. (E) Rate allowed on common equity in '23: 9.7%; Regulatory Climate: Above Average.	<b>Company's Financial Strength</b> B++ <b>Stock's Price Stability</b> 95 <b>Price Growth Persistence</b> 70 <b>Earnings Predictability</b> 100
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# OGE ENERGY CORP. NYSE-OGE

RECENT PRICE **39.64** P/E RATIO **16.1** (Trailing: 19.4 Median: 18.0) RELATIVE P/E RATIO **0.88** DIV/D YLD **4.3%** VALUE LINE



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
21.77	14.79	19.04	19.96	18.58	14.45	12.30	11.00	11.31	11.32	11.37	11.15	10.61	18.26	16.86	13.36	14.50	15.00	Revenues per sh	17.50
2.40	2.69	3.01	3.31	3.69	3.46	3.40	3.23	3.31	3.34	3.74	4.02	4.03	4.44	5.63	4.61	4.70	5.05	"Cash Flow" per sh	5.85
1.25	1.33	1.50	1.73	1.79	1.94	1.98	1.69	1.69	1.92	2.12	2.24	2.08	2.36	2.25	2.07	2.15	2.30	Earnings per sh <sup>A</sup>	2.70
.70	.71	.73	.76	.80	.85	.95	1.05	1.16	1.27	1.40	1.51	1.58	1.63	1.64	1.66	1.69	1.73	Div'd Decl'd per sh <sup>B</sup>	1.85
4.01	4.37	4.36	6.48	5.85	4.99	2.86	2.74	3.31	4.13	2.87	3.18	3.25	3.89	5.25	4.49	4.75	4.75	Cap'l Spending per sh	4.75
10.14	10.52	11.73	13.06	14.00	15.30	16.27	16.66	17.24	19.28	20.06	20.69	18.15	20.27	22.52	22.17	23.10	23.75	Book Value per sh <sup>C</sup>	26.25
187.00	194.00	195.20	196.20	197.60	198.50	199.40	199.70	199.70	199.70	199.70	200.10	200.10	200.10	200.20	200.30	200.20	200.20	Common Shs Outst'g <sup>D</sup>	200.20
12.4	10.8	13.3	14.4	15.2	17.7	18.3	17.7	17.7	18.3	16.5	19.0	16.2	14.3	17.2	17.4	<b>Bold figures are Value Line estimates</b>		Avg Ann'l P/E Ratio	14.0
.75	.72	.85	.90	.97	.99	.96	.89	.93	.92	.89	1.01	.83	.77	1.00	.96			Relative P/E Ratio	.80
4.5%	5.0%	3.7%	3.1%	2.9%	2.5%	2.6%	3.5%	3.9%	3.6%	4.0%	3.5%	4.7%	4.8%	4.5%	5.1%			Avg Ann'l Div'd Yield	4.4%

**CAPITAL STRUCTURE as of 6/30/24**  
 Total Debt \$4901.2 mill. Due in 5 Yrs \$1731.5 mill.  
 LT Debt \$4821.8 mill. LT Interest \$158.7 mill.  
 (LT interest earned: 4.3x)

Leases, Uncapitalized Annual rentals \$5.7 mill.

Pension Assets-12/22 \$486.0 mill. Oblig \$502.9 mill.

Pfd Stock None

Common Stock 200,867,263 shs.

MARKET CAP: \$8.0 billion (Mid Cap)

**ELECTRIC OPERATING STATISTICS**

	2020	2021	2022
% Change Retail Sales (KWH)	-4.9	+2.6	+8.3
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (c)	4.40	7.68	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	6437	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.1	+1.4	NA

Fixed Charge Cov. (%) 326 336 335

**ANNUAL RATES** Past 10 Yrs. Past 5 Yrs. Est'd '21-'23 of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23
Revenues	-3.0%	5.0%	5.5%
"Cash Flow"	2.5%	5.0%	7.0%
Earnings	3.0%	4.5%	6.5%
Dividends	7.5%	6.5%	3.0%
Book Value	4.0%	1.5%	5.5%

**QUARTERLY REVENUES (\$ mill.)**

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	1630.0	577.4	864.4	581.3	3653.7
2022	589.3	803.7	1270.0	711.9	3375.7
2023	557.2	605.0	945.4	566.7	2674.3
2024	596.8	662.6	920	720.6	2900
2025	620	780	950	650	3000

**EARNINGS PER SHARE <sup>A</sup>**

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	.26	.56	1.26	.28	2.36
2022	.33	.36	1.31	.25	2.25
2023	.19	.44	1.20	.24	2.07
2024	.09	.51	1.29	.26	2.15
2025	.40	.35	1.30	.25	2.30

**QUARTERLY DIVIDENDS PAID <sup>B</sup>**

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.3875	.3875	.3875	.4025	1.57
2021	.4025	.4025	.4025	.41	1.62
2022	.41	.41	.41	.4141	1.64
2023	.4141	.4141	.4141	.4182	1.66
2024	.4182	.4182	.4182		

**BUSINESS:** OGE Energy Corp. is a holding company for Oklahoma Gas and Electric Company (OG&E), which supplies electricity to 879,000 customers in Oklahoma (84% of electric revenues) and western Arkansas (8%); wholesale is (8%). Owns 3% of Energy Transfer's limited partnership units. Electric revenue breakdown: residential, 44%; commercial, 25%; industrial, 11%; oilfield, 10%;

**OGE Energy's utility subsidiary continues to make progress on the regulatory front.** In July, Oklahoma Gas and Electric (OG&E) implemented a \$126.6 million (6.6%) rate increase, despite a pending regulatory review. The utility initially proposed a \$332 million (13.85%) hike or a \$19.02 average monthly rise per residential customer. The rate hike will help OGE recover essential capital investments to strengthen and improve the reliability of the electric grid. The settlement is awaiting a recommendation from an administrative law judge, and a hearing with the Oklahoma Corporation Commission is set to finalize the case in the coming months.

**We have raised our 2024 earnings-per-share estimate by a dime, back to our original call.** The second-quarter bottom-line performance was better than expected due to strong load growth and warmer-than-normal weather conditions. Our profit estimate is now just above the midpoint of OGE Energy's updated target range of \$2.06-\$2.18. Management recently stated that it is now looking for earnings to come in at the top half of its range this year.

**Bottom-line growth should pick up in 2025.** OGE is set to receive a full year of rate relief in Oklahoma and Arkansas next year. What's more, its prospects as a pure-play electric utility will likely improve over that interim, as investments in the grid bear fruit, especially with the expected rise in power demand from data centers. As a result, our 2025 earnings estimate is staying put at \$2.30 per share, which is on the high end of OGE Energy's long-term growth rate target of 5%-7% annually, based on our 2024 call. And, we look for OGE to earn \$2.70 a share by 2027-2029.

**Those with a penchant for income may want to consider a position here.** The dividend yield of 4.3% stands comfortably above the high-paying utility average and is by far this issue's most notable feature. But, intermediate- and long-term capital appreciation potential is nothing to write home about. Indeed, the recent quotation already lies well within both our 18-month and 3- to 5-year Target Price Ranges. Meanwhile, the stock holds just a 3 (Average) rank for Timeliness.

(A) Diluted EPS. Excl. nonrecurring gains (losses): '15, (33c); '17, \$1.18; '19, (8c); '20, (\$2.95); '21, \$1.32; '22, \$1.06; gain on discount ops.: '19 & '21 EPS don't sum due to rounding. Next earnings report due early Nov. (B) Div's historically paid in late Jan., Apr., July, & Oct. Div'd reinvestment plan avail. (C) Incl. deferred charges. In '22: \$6.15/sh. (D) In mill., adj. for split. (E) Rate base: Net original cost. Rate allowed on com. eq. in OK in '19: 9.5%; in AR in '18: 9.5%; earned on avg. com. eq., '21: 12.7%. Regulatory Climate: Average.

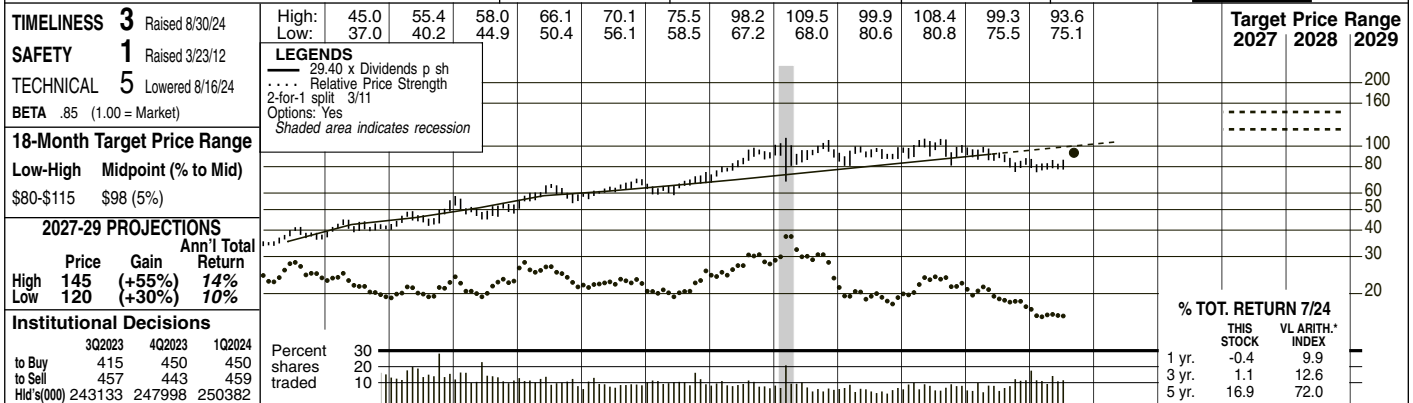
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**Company's Financial Strength** B++  
**Stock's Price Stability** 80  
**Price Growth Persistence** 30  
**Earnings Predictability** 95

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# WEC ENERGY GROUP NYSE-WEC

RECENT PRICE **93.01** P/E RATIO **18.9** (Trailing: 21.5; Median: 21.0) RELATIVE P/E RATIO **1.03** DIV'D YLD **3.6%** VALUE LINE



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
18.95	17.65	17.98	19.46	18.54	20.00	22.16	18.77	23.68	24.24	24.34	23.85	22.96	26.36	30.43	28.19	<b>28.85</b>	<b>30.10</b>	Revenues per sh	<b>35.80</b>
2.95	3.11	3.30	3.68	4.01	4.33	4.47	3.87	5.39	5.69	6.04	6.53	6.90	7.53	8.01	8.64	<b>9.35</b>	<b>10.15</b>	"Cash Flow" per sh	<b>11.95</b>
1.52	1.60	1.92	2.18	2.35	2.51	2.59	2.34	2.96	3.14	3.34	3.58	3.79	4.11	4.46	4.63	<b>4.90</b>	<b>5.25</b>	Earnings per sh <sup>A</sup>	<b>6.40</b>
.54	.68	.80	1.04	1.20	1.45	1.56	1.74	1.98	2.08	2.21	2.36	2.53	2.71	2.91	3.12	<b>3.34</b>	<b>3.57</b>	Div'd Decl'd per sh <sup>B</sup>	<b>3.83</b>
4.86	3.50	3.41	3.60	3.09	3.04	3.26	4.01	4.51	6.21	6.71	7.17	7.10	7.14	7.34	9.14	<b>9.30</b>	<b>9.30</b>	Cap'l Spending per sh	<b>9.25</b>
14.27	15.26	16.26	17.20	18.05	18.73	19.60	27.42	28.29	29.98	31.02	32.06	33.19	34.60	36.76	37.25	<b>37.90</b>	<b>38.70</b>	Book Value per sh <sup>C</sup>	<b>42.00</b>
233.84	233.82	233.77	230.49	229.04	225.96	225.52	315.68	315.62	315.57	315.52	315.43	315.43	315.43	315.43	315.43	<b>315.43</b>	<b>315.43</b>	Common Shs Outst'g <sup>D</sup>	<b>315.43</b>
14.8	13.3	14.0	14.2	15.8	16.5	17.7	21.3	19.9	20.0	19.6	23.5	24.9	22.3	21.9	19.1	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	<b>20.5</b>
.89	.89	.89	.89	1.01	.93	.93	1.07	1.04	1.01	1.06	1.25	1.28	1.21	1.27	1.09			Relative P/E Ratio	<b>1.15</b>
2.4%	3.2%	3.0%	3.3%	3.2%	3.5%	3.4%	3.5%	3.4%	3.3%	3.4%	2.8%	2.7%	3.0%	3.4%	3.8%			Avg Ann'l Div'd Yield	<b>3.4%</b>

CAPITAL STRUCTURE as of 6/30/24		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Revenues (\$mill)	11300
Total Debt \$17669.1 mill. Due in 5 Yrs \$4611 mill.		4997.1	5926.1	7472.3	7648.5	7679.5	7523.1	7241.7	8316.0	9597.4	8893.0	<b>9100</b>	<b>9500</b>	Revenues (\$mill)	11300						
LT Debt \$16907.8 mill. LT Interest \$452.7 mill.		589.5	640.3	940.2	998.2	1060.5	1134.2	1201.1	1301.5	1406.8	1460.4	<b>1545</b>	<b>1655</b>	Net Profit (\$mill)	2020						
Incl. \$12.1 mill. finance leases. (LT interest earned: 4.4x)		38.0%	40.4%	37.6%	37.2%	38.8%	37.2%	38.8%	38.8%	38.8%	38.8%	<b>38.8%</b>	<b>38.8%</b>	Income Tax Rate	19.0%						
Leases, Uncapitalized Annual rentals \$6.8 mill. Oblig \$3136.6 mill.		1.3%	4.5%	3.8%	1.6%	2.1%	1.8%	2.4%	1.9%	2.1%	2.1%	<b>2.0%</b>	<b>2.0%</b>	AFUDC % to Net Profit	2.0%						
Pfd Stock \$30.4 mill. Pfd Div'd \$1.2 mill.		48.5%	51.2%	50.5%	48.0%	50.4%	52.5%	52.8%	55.3%	54.7%	54.9%	<b>55.0%</b>	<b>55.0%</b>	Long-Term Debt Ratio	55.5%						
260,000 shs. 3.60%, \$100 par, callable \$101; 44,498 shs. 6%, \$100 par.		51.2%	48.6%	49.3%	51.9%	49.4%	47.4%	47.1%	44.6%	44.4%	44.5%	<b>44.5%</b>	<b>44.5%</b>	Common Equity Ratio	44.5%						
Common Stock 316,079,401 shs.		8636.5	17809	18118	18238	19813	21355	22228	24467	25368	26279	<b>27000</b>	<b>28120</b>	Total Capital (\$mill)	29800						
MARKET CAP: \$29.4 billion (Large Cap)		11258	19190	19916	21347	22001	23620	25707	26982	29114	31582	<b>31000</b>	<b>32750</b>	Net Plant (\$mill)	35100						
ELECTRIC OPERATING STATISTICS		8.1%	4.5%	6.3%	6.6%	6.5%	6.5%	6.5%	6.3%	6.4%	6.5%	<b>6.5%</b>	<b>6.5%</b>	Return on Total Cap'l	7.0%						
Fixed Charge Cov. (%)		5.3%	2.1%	3.5%	3.6%	3.7%	3.8%	3.8%	4.1%	4.0%	4.5%	<b>4.0%</b>	<b>4.0%</b>	Return on Shr. Equity	13.0%						
2020		60%	71%	67%	66%	66%	66%	66%	66%	65%	68%	<b>68%</b>	<b>68%</b>	Return on Com Equity <sup>E</sup>	13.0%						
2021		60%	71%	67%	66%	66%	66%	66%	66%	65%	68%	<b>68%</b>	<b>68%</b>	All Div'ds to Net Prof	64%						
2022		60%	71%	67%	66%	66%	66%	66%	66%	65%	68%	<b>68%</b>	<b>68%</b>								
2023		60%	71%	67%	66%	66%	66%	66%	66%	65%	68%	<b>68%</b>	<b>68%</b>								
2024		60%	71%	67%	66%	66%	66%	66%	66%	65%	68%	<b>68%</b>	<b>68%</b>								
2025		60%	71%	67%	66%	66%	66%	66%	66%	65%	68%	<b>68%</b>	<b>68%</b>								

**BUSINESS:** WEC Energy Group, Inc. (formerly Wisconsin Energy) is a holding company for utilities that provide electric, gas & steam service in WI & gas service in IL, MN, & MI. Customers: 1.6 mill. elec., 2.9 mill. gas. Acq'd Integrys Energy 6/15. Electric revenue breakdown: residential, 39%; small commercial & industrial, 32%; large commercial & industrial, 21%; other, 8%. Generating sources: coal, 36%; gas, 28%; renewables, 5%; purchased, 31%. Fuel costs: 40% of revenues. '23 reported deprec. rates: 2.4%-3.1%. Has 6,900 employees. Chairman: Gale E. Klappa. President & CEO: Scott J. Lauber. Incorporated.: Wisconsin. Address: 231 W. Michigan St., P.O. Box 1331, Milwaukee, WI 53201. Telephone.: 414-221-2345. Internet: www.wecenergygroup.com.

**WEC Energy remains active on the regulatory front.** In Wisconsin, the utilities are making progress on their request for approximately \$800 million in rate increases over 2025 and 2026 to improve reliability, reduce outages, and continue the transition from coal generation to renewable and natural gas. A final order is expected by the end of this year, and new rates are set to begin on January 1st, 2025. WEC Energy's utilities in Michigan also have pending reviews, and the company anticipates a ruling by the end of the year. And, the Illinois Commerce Commission recently agreed to reconsider WEC's request to restore approximately \$145 million for its safety modernization program in 2024.

**We look for WEC Energy to post nice earnings growth in 2024 and 2025, in line with its long-term annual target.** The utility should continue to take advantage of electric and gas volume increases due to elevated power demand, construction initiatives, and positive developments in the infrastructure transmission segments. Our 2024 bottom-line estimate is at the top of management's typically narrow guidance range of \$4.80-\$4.90 a share. We look for 6% profit growth this year, within WEC Energy's annual target of 5%-7%. What's more, there may be similar growth of 7% in 2025. The utility should benefit nicely from a full year of rate relief in Wisconsin and Michigan over that interim, along with elevated demand from data centers.

**These shares have risen significantly in value since our early June review.** Indeed, the stock is up nearly 20% in that time, reaching a new 52-week high. And, the recent gains have reversed losses over the past year, sending the stock into the green.

**The stock should appeal to conservative, income-oriented investors.** It holds a top-notch rating for Earnings Predictability (100) and is ranked Highest (1) for Safety. Too, the dividend yield of 3.6% stands above the utility industry average. Accounts with a long-term investment horizon may also want to take a closer look. Indeed, total return potential over the 3- to 5-year time frame is decent versus most of its peers.

*Zachary J. Hodgkinson September 6, 2024*

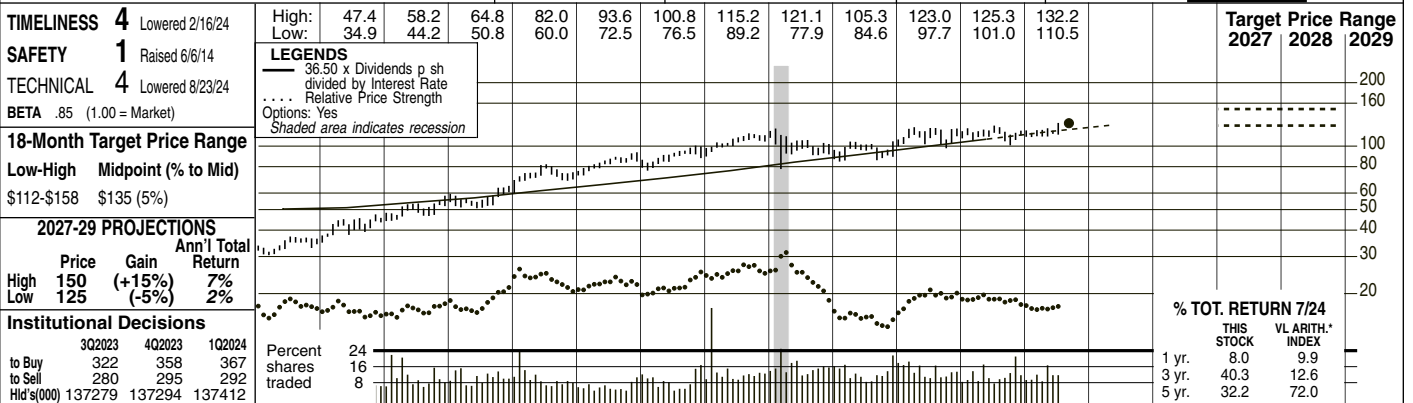
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	2691	1676	1746	2201	8316.0
2022	2908	2127	2003	2558	9597.4
2023	2888	1830	1957	2218	8893.0
2024	2680	1772	1978	2670	9100
2025	2750	1950	2100	2700	9500

(A) Diluted EPS. Excl. gain on discontinued ops.: '11, 6c; nonrecurring gain: '17, 65c. Next earnings report due late October. (B) Div'ds paid in early Mar., June, Sept. & Dec. (C) Div'd reinvestment plan avail. (D) In mill., adj. for split. (E) Rate base: Net orig. cost. Rates all'd on com. eq. in WI in '15: 10.0%-10.2%; in IL in '21: 9.67%; in MN in '19: 9.7%; in MI in '23: 9.85%; earned on avg. com. eq., '21: 12.2%. Regulatory Climate: WI, Above Average; IL, Below Average; MN & MI, Average.



# ATMOS ENERGY CORP. NYSE-ATO

RECENT PRICE **128.64** P/E RATIO **18.3** (Trailing: 18.9 Median: 20.0) RELATIVE P/E RATIO **1.05** DIV/D YLD **2.7%** **VALUE LINE**



Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	27-29
Revenues per sh <sup>A</sup>	79.52	53.69	53.12	48.15	38.10	42.88	49.22	40.82	32.23	26.01	28.00	24.32	22.41	25.73	29.82	28.79	<b>26.55</b>	<b>27.55</b>	35.70
"Cash Flow" per sh	4.19	4.29	4.64	4.72	5.14	5.42	5.42	5.81	6.19	6.62	7.24	7.57	8.03	8.64	9.30	10.04	<b>10.95</b>	<b>11.75</b>	13.65
Earnings per sh <sup>AB</sup>	2.00	1.97	2.16	2.26	2.10	2.50	2.96	3.09	3.38	3.60	4.00	4.35	4.72	5.12	5.60	6.10	<b>6.75</b>	<b>7.20</b>	8.35
Div'ds Decl'd per sh <sup>C</sup>	1.30	1.32	1.34	1.36	1.38	1.40	1.48	1.56	1.68	1.80	1.94	2.10	2.30	2.50	2.72	2.96	<b>3.22</b>	<b>3.46</b>	4.25
Cap'l Spending per sh	5.20	5.51	6.02	6.90	8.12	9.32	8.32	9.61	10.46	10.72	13.19	14.19	15.38	14.87	17.35	18.90	<b>20.00</b>	<b>20.25</b>	20.00
Book Value per sh	22.60	23.52	24.16	24.98	26.14	28.47	30.74	31.48	33.32	36.74	42.87	48.18	53.95	59.71	66.85	73.20	<b>80.70</b>	<b>82.60</b>	89.15
Common Shs Outst'g <sup>D</sup>	90.81	92.55	90.16	90.30	90.24	90.64	100.39	101.48	103.93	106.10	111.27	119.34	125.88	132.42	140.90	148.49	<b>155.00</b>	<b>158.00</b>	175.00
Avg Ann'l P/E Ratio	13.6	12.5	13.2	14.4	15.9	15.9	16.1	17.5	20.8	22.0	21.7	23.2	22.3	18.8	19.3	18.7	<b>16.5</b>	<b>16.5</b>	16.5
Relative P/E Ratio	.82	.83	.84	.90	1.01	.89	.85	.88	1.09	1.11	1.17	1.24	1.15	1.02	1.12	1.08	<b>1.05</b>	<b>1.05</b>	.90
Avg Ann'l Div'd Yield	4.8%	5.3%	4.7%	4.2%	4.1%	3.5%	3.1%	2.9%	2.4%	2.3%	2.2%	2.1%	2.2%	2.6%	2.5%	2.6%	<b>2.7%</b>	<b>2.7%</b>	3.1%

**CAPITAL STRUCTURE as of 6/30/24**  
 Total Debt \$7876.1 mill. Due in 5 Yrs \$915.0 mill.  
 LT Debt \$7866.5 mill. LT Interest \$135.0 mill.  
 (LT interest earned: 8.3x; total interest coverage: 8.3x)  
 Leases, Uncapitalized Annual rentals \$41.3 mill.

**Pfd Stock** None

**Pension Assets-9/23** \$502.4 mill.  
 Oblig. \$431.6 mill.

**Common Stock** 155,232,827 shs. as of 8/2/24

**MARKET CAP: \$20.0 billion (Large Cap)**

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	27-29
Revenues (\$mill) <sup>A</sup>	4940.9	4142.1	3349.9	2759.7	3115.5	2901.8	2821.1	3407.5	4201.7	4275.4	4115	4350	6250						
Net Profit (\$mill)	289.8	315.1	350.1	382.7	444.3	511.4	580.5	665.6	774.4	885.9	1025	1115	1475						
Income Tax Rate	39.2%	38.3%	36.4%	36.6%	27.0%	21.4%	19.5%	18.8%	9.1%	11.4%	15.5%	16.0%	25.0%						
Net Profit Margin	5.9%	7.6%	10.5%	13.9%	14.3%	17.6%	20.6%	19.5%	18.4%	20.7%	24.9%	25.6%	23.6%						
Long-Term Debt Ratio	44.3%	43.5%	38.7%	44.0%	34.3%	38.0%	40.0%	38.4%	37.9%	37.9%	39.0%	40.0%	40.0%						
Common Equity Ratio	55.7%	56.5%	61.3%	56.0%	65.7%	62.0%	60.0%	61.6%	62.1%	62.1%	61.0%	60.0%	60.0%						
Total Capital (\$mill)	5542.2	5650.2	5651.8	6965.7	7263.6	9279.7	11323	12837	15180	17509	20500	21750	26000						
Net Plant (\$mill)	6725.9	7430.6	8280.5	9259.2	10371	11788	13355	15064	17240	19607	22000	23100	28000						
Return on Total Cap'l	6.4%	6.6%	7.2%	6.4%	6.9%	6.1%	5.5%	5.5%	5.4%	5.5%	6.0%	6.5%	7.0%						
Return on Shr. Equity	9.4%	9.9%	10.1%	9.8%	9.3%	8.9%	8.5%	8.4%	8.2%	8.1%	8.0%	8.5%	9.5%						
Return on Com Equity	9.4%	9.9%	10.1%	9.8%	9.3%	8.9%	8.5%	8.4%	8.2%	8.1%	8.0%	8.5%	9.5%						
Retained to Com Eq	4.7%	4.9%	5.1%	4.9%	4.8%	4.6%	4.4%	4.3%	4.2%	4.2%	4.0%	4.5%	4.5%						
All Div'ds to Net Prof	50%	51%	50%	50%	48%	48%	49%	49%	49%	49%	49%	49%	49%						

**Value Line is optimistic about Atmos' performance out to the end of this decade.** It ranks as one of the nation's largest natural gas-only distributors, with more than three million customers across several states, including Texas, Louisiana, and Mississippi. Also, we think the pipeline and storage unit has promising overall growth opportunities, since it operates in one of the most-active drilling regions in the world. The sound balance sheet is another strength.

**The top-quality stock has climbed to record highs since our last full-page review in May.** The energy firm's good earnings during fiscal 2024 are surely a driving force behind that price move. But long-term total return potential lacks appeal. The equity bears a 4 (Below Average) Timeliness rank, as well.

Year	2022	2023	6/30/24
Cash Assets (\$mill)	51.6	15.4	674.6
Other	2996.1	870.4	1034.0
Current Assets	3047.7	885.8	1708.6
Accts Payable	496.0	336.1	319.4
Debt Due	2386.4	253.4	9.6
Other	720.2	763.1	655.9
Current Liab.	3602.6	1352.6	984.9
Fix. Chg. Cov.	1238%	1059%	1075%

**Atmos Energy's long streak of earnings growth will probably remain unbroken in fiscal 2024 (concludes September 30th).** During the first nine months, earnings per share of \$6.01 were 12.8% above the \$5.33 tally posted the previous year. That was made possible partially by positive rate-case outcomes. A drop in bad-debt expense helped, too. Moreover, results were favorably impacted by legislation to bring down property-tax expenses in Texas. But an increase in both depreciation expense and interest charges produced somewhat of an offset. Although the company faces a tough bottom-line matchup in the fourth quarter, we expect full-year profits to be around \$6.75 a share. That would mark a 10% or so advance from fiscal 2023's \$6.10 figure. Regarding fiscal 2025, share net stands to rise another 7%, to \$7.20, assuming additional expansion of operating margins.

stock and/or debt securities remained available for issuance (out of \$5 billion) under a shelf registration statement expiring in March, 2026. Finally, the company had four undrawn revolving credit facilities aggregating \$3.1 billion plus a \$1.5 billion commercial paper program.

Year	2021	2022	2023	2024	2025
Revenues	914.5	1319.1	605.6	568.3	3407.5
"Cash Flow"	1012.8	1649.8	816.4	722.7	4201.7
Earnings	1484.0	1541.0	662.7	587.7	4275.4
Dividends	1158.5	1647.2	701.5	607.8	4115
Book Value	1250	1275	750	625	4350

**Finances are healthy.** When the June period ended, cash and equivalents resided at \$674.6 million. Furthermore, long-term debt appeared manageable (nearly 40% of total capital) and short-term borrowings were modest. Also, \$1.8 billion in common

stock and/or debt securities remained available for issuance (out of \$5 billion) under a shelf registration statement expiring in March, 2026. Finally, the company had four undrawn revolving credit facilities aggregating \$3.1 billion plus a \$1.5 billion commercial paper program.

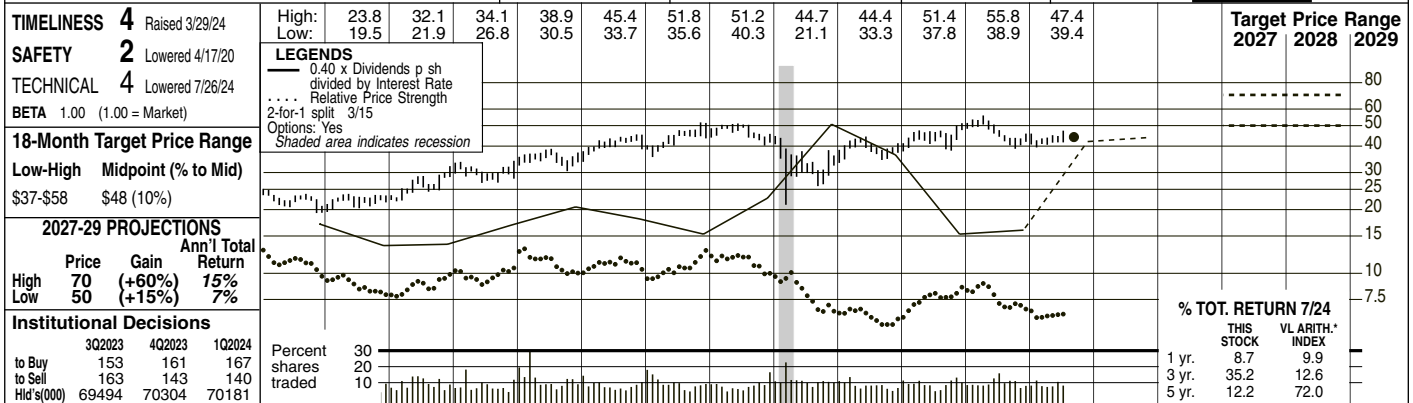
Year	2021	2022	2023	2024	2025
Earnings per share <sup>A</sup>	1.71	2.30	.78	.37	5.12
Diluted earnings per share <sup>B</sup>	1.86	2.37	.92	.51	5.60
Dividends per share <sup>C</sup>	1.91	2.48	.94	.80	6.10
Dividends per share <sup>D</sup>	2.08	2.85	1.08	.74	6.75
Dividends per share <sup>E</sup>	2.26	2.95	1.16	.83	7.20

stock and/or debt securities remained available for issuance (out of \$5 billion) under a shelf registration statement expiring in March, 2026. Finally, the company had four undrawn revolving credit facilities aggregating \$3.1 billion plus a \$1.5 billion commercial paper program.

**Value Line is optimistic about Atmos' performance out to the end of this decade.** It ranks as one of the nation's largest natural gas-only distributors, with more than three million customers across several states, including Texas, Louisiana, and Mississippi. Also, we think the pipeline and storage unit has promising overall growth opportunities, since it operates in one of the most-active drilling regions in the world. The sound balance sheet is another strength.

(A) Fiscal year ends Sept. 30th. (B) Diluted shrs. Excl. nonrec. gains (loss): '10, 5c; '11, 11c; '18, \$1.43; '20, 17c. Excludes discontinued operations: '11, 10c; '12, 27c; '13, 14c; '17, 13c. Next earnings report due early Nov.	(C) Dividends historically paid in early March, June, Sept., and Dec. ■ Div. reinvestment plan. Direct stock purchase plan avail.	(D) In millions.	(E) Qtrs may not add due to change in shrs outstanding.	Company's Financial Strength	A
				Stock's Price Stability	95
				Price Growth Persistence	75
				Earnings Predictability	100

**NEW JERSEY RES. NYSE-NJR** RECENT PRICE **44.12** P/E RATIO **15.2** (Trailing: 18.7; Median: 17.0) RELATIVE P/E RATIO **0.87** DIV'D YLD **3.9%** VALUE LINE



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
45.37	31.17	32.05	36.30	27.08	38.38	44.40	32.09	21.90	26.28	33.24	29.01	20.39	22.71	30.38	20.12	<b>19.00</b>	<b>21.00</b>	Revenues per sh <sup>A</sup>	<b>25.00</b>
1.81	1.58	1.63	1.70	1.86	1.93	2.73	2.52	2.46	2.68	3.72	2.99	3.30	3.36	3.86	4.22	<b>4.50</b>	<b>4.50</b>	"Cash Flow" per sh	<b>5.25</b>
1.35	1.20	1.23	1.29	1.36	1.37	2.08	1.78	1.61	1.73	2.72	1.96	2.07	2.16	2.50	2.70	<b>2.90</b>	<b>2.90</b>	Earnings per sh <sup>B</sup>	<b>3.50</b>
.56	.62	.68	.72	.77	.81	.86	.93	.98	1.04	1.11	1.19	1.27	1.36	1.45	1.56	<b>1.68</b>	<b>1.76</b>	Div'ds Decl'd per sh <sup>C</sup>	<b>1.95</b>
.86	.90	1.05	1.13	1.26	1.33	1.52	3.76	4.15	3.80	4.39	5.83	4.65	5.42	6.50	5.13	<b>5.00</b>	<b>5.50</b>	Cap'l Spending per sh	<b>6.25</b>
8.64	8.29	8.81	9.36	9.80	10.65	11.48	12.99	13.58	14.33	16.18	17.37	19.26	17.18	19.00	20.40	<b>22.30</b>	<b>23.65</b>	Book Value per sh <sup>D</sup>	<b>28.35</b>
84.12	83.17	82.35	82.89	83.05	83.32	84.20	85.19	85.88	86.32	87.69	89.34	95.80	94.95	95.64	97.57	<b>100.00</b>	<b>100.00</b>	Common Shs Outst'g <sup>E</sup>	<b>100.00</b>
12.3	14.9	15.0	16.8	16.8	16.0	11.7	16.6	21.3	22.4	15.6	24.3	17.7	17.5	17.0	17.7	<i>Bold figures are Value Line estimates</i>		Avg Ann'l P/E Ratio	<b>17.0</b>
.74	.99	.95	1.05	1.07	.90	.62	.84	1.12	1.13	.84	1.29	.91	.94	.98	1.02			Relative P/E Ratio	<b>.95</b>
3.3%	3.5%	3.7%	3.3%	3.4%	3.7%	3.5%	3.1%	2.9%	2.7%	2.6%	2.5%	3.5%	3.6%	3.4%	3.3%			Avg Ann'l Div'd Yield	<b>4.0%</b>

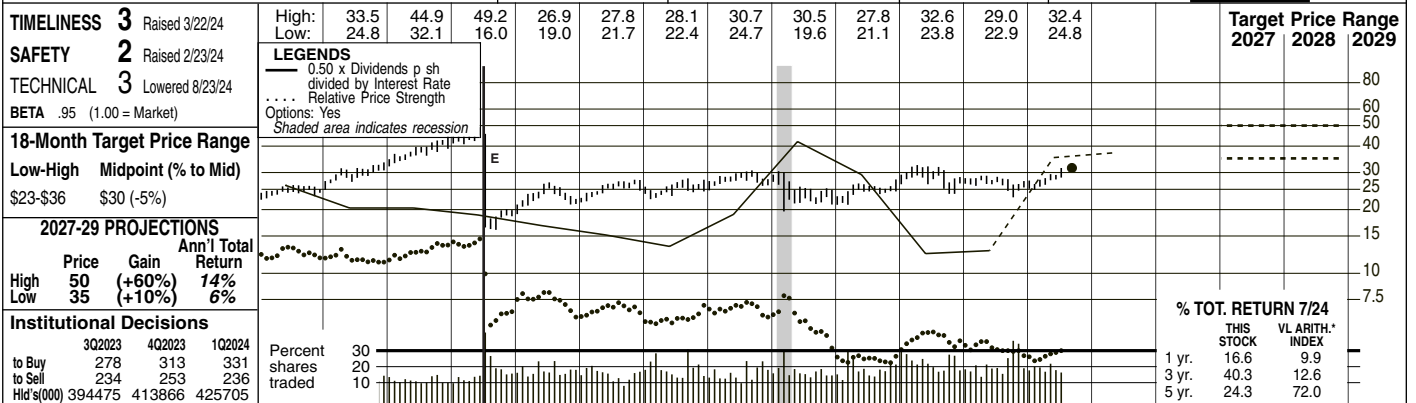
CAPITAL STRUCTURE as of 6/30/24		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total Debt \$3246.0 mill. Due in 5 Yrs \$580 mill.		3738.1	2734.0	1880.9	2268.6	2915.1	2592.0	1953.7	2156.6	2906.0	1963.0	1900	2100	Revenues (\$mill) <sup>A</sup>	<b>2500</b>				
LT Debt \$2793.7 mill. LT Interest \$125 mill.		176.9	153.7	138.1	149.4	240.5	175.0	196.2	207.7	240.3	261.8	290	290	Net Profit (\$mill)	<b>350</b>				
Incl. \$9.3 mill. capitalized leases. (Interest coverage: 4.85x)		30.2%	26.3%	15.5%	17.2%	--	--	NMF	10.3%	21.4%	15.8%	<b>21.5%</b>	<b>22.0%</b>	Income Tax Rate	<b>22.0%</b>				
Pension Assets-9/23 \$405.0 mill. Oblig. \$493.7 mill.		4.7%	5.6%	7.3%	6.6%	8.2%	6.7%	10.0%	9.6%	8.3%	13.3%	<b>15.3%</b>	<b>13.8%</b>	Net Profit Margin	<b>14.0%</b>				
Pfd Stock None		38.2%	43.2%	47.7%	44.6%	45.4%	49.8%	55.1%	57.0%	57.8%	58.2%	<b>57.5%</b>	<b>57.0%</b>	Long-Term Debt Ratio	<b>55.0%</b>				
Common Stock 99,167,564 shs. as of 8/2/24		61.8%	56.8%	52.3%	55.4%	54.6%	50.2%	44.9%	43.0%	42.2%	41.8%	<b>42.5%</b>	<b>43.0%</b>	Common Equity Ratio	<b>45.0%</b>				
MARKET CAP: \$4.4 billion (Mid Cap)		1564.4	1950.6	2230.1	2233.7	2599.6	3088.9	4104.2	3793.0	4302.6	4758.8	<b>5250</b>	<b>5500</b>	Total Capital (\$mill)	<b>6300</b>				
CURRENT POSITION (SMILL.)		1884.1	2128.3	2407.7	2609.7	2651.0	3041.2	3983.0	4213.5	4649.9	5022.1	<b>5400</b>	<b>5750</b>	Net Plant (\$mill)	<b>6500</b>				
Cash Assets		11.0%	7.0%	4.8%	5.0%	10.2%	4.6%	4.3%	5.6%	6.2%	5.6%	<b>5.5%</b>	<b>5.0%</b>	Return on Total Cap'l	<b>5.5%</b>				
Other		40%	50%	60%	59%	40%	59%	60%	56%	53%	58%	<b>58%</b>	<b>61%</b>	Return on Shr. Equity	<b>12.5%</b>				
Current Assets		11.0%	7.0%	4.8%	5.0%	10.2%	4.6%	4.3%	5.6%	6.2%	5.6%	<b>5.5%</b>	<b>5.0%</b>	Return on Com Equity	<b>12.5%</b>				

**BUSINESS:** New Jersey Resources Corp. is a holding company providing retail/wholesale energy svcs. to customers in NJ, and in states from the Gulf Coast to New England, and Canada. New Jersey Natural Gas had 576,000 cust. at 9/30/23. Fiscal 2023 volume: 128 bill. cu. ft. (23% interruptible, 50% residential, commercial & firm transportation, 27% other). N.J. Natural Energy subsidiary provides unregulated retail/wholesale natural gas and related energy svcs. 2023 dep. rate: 2.8%. Has 1,350 empl. Off/dir. own less than 1% of common; BlackRock, 15.9%; Vanguard, 11.4% (12/23 Proxy). CEO, President & Director: Steven D. Westhoven. Incorporated: New Jersey. Address: 1415 Wyckoff Road, Wall, NJ 07719. Telephone: 732-938-1480. Web: www.njresources.com.

**New Jersey Resources reported a mixed performance in the fiscal third quarter.** (Fiscal year ends September 30th.) Both the top and bottom lines landed below our targets. Quarterly revenues expanded year over year, bolstered by the utility business, though an unfavorable gross-margin contraction negated this segment's contribution to profitability. Clean Energy Ventures also performed favorably on top-line growth, making progress on its capacity expansion pipeline, though a special tax effect offset the segment's profit-comparison versus the prior year. A higher charge for depreciation and larger interest bill further pressured profit margins. Ultimately, the bottom-line result was roughly \$0.15 below our target. However, a \$0.09 per share loss in the fiscal third quarter is not particularly concerning, and is not out of the ordinary for the natural gas utility's low season. **We have pared back our fiscal 2024 earnings forecast.** Our new target of \$2.90 per share, now \$0.05 lower, is near the bottom of management's guidance range, calling for earnings of \$2.85 to \$3.00 per share. A historically strong fiscal fourth-quarter performance will be required to meet this expectation, so caution is suggested at this juncture. Asset management agreements coming due in the Energy Services segment should bolster profits in the final stanza of fiscal 2024. **Earnings growth could falter in fiscal 2025.** The company has been executing very well against leadership's goal for 7%-9% long-term annual earnings growth. Unique conditions (strong energy prices, specific weather events) have led to the outperformance of this target over the past few years. Barring any unexpected developments, earnings growth may stall in fiscal 2025, before resuming again. The company's core earnings performance will likely benefit from pending rate cases. **The stock may be appealing to certain accounts.** The company's evolving market stance as a diversified energy syndicate adds some fundamental stability to the stock (Safety: 2). The utility sector tends to provide strength through market volatility, making this selection suitable for most conservative portfolios. The clean energy transition adds to upside potential. *Earl B. Humes August 23, 2024*

(A) Fiscal year ends Sept. 30th.	report due mid-November.	(D) Includes regulatory assets in 2023: \$585 million, \$6.00/share.	Company's Financial Strength	A
(B) Diluted earnings. Qtl. revenues and egs. may not sum to total due to rounding and change in shares outstanding. Next earnings	(C) Dividends historically paid in early Jan., April, July, and October. ■ Dividend reinvestment plan available.	(E) In millions, adjusted for 3/15 split.	Stock's Price Stability	85
			Price Growth Persistence	50
			Earnings Predictability	60

**NISOURCE INC. NYSE-NI** RECENT PRICE **31.56** P/E RATIO **18.0** (Trailing: 17.7; Median: 21.0) RELATIVE P/E RATIO **1.03** DIV'D YLD **3.5%** **VALUE LINE**



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
32.36	24.02	22.99	21.33	16.31	18.04	20.47	14.58	13.90	14.46	13.74	13.63	11.95	12.09	14.23	12.33	<b>13.00</b>	<b>14.00</b>	Revenues per sh	16.00
3.32	2.96	3.19	2.98	3.13	3.41	3.60	2.27	2.71	2.07	2.86	3.17	3.15	3.26	3.47	3.64	<b>3.80</b>	<b>3.90</b>	"Cash Flow" per sh	4.25
1.34	.84	1.06	1.05	1.37	1.57	1.67	.63	1.00	.39	1.30	1.31	1.32	1.37	1.47	1.60	<b>1.75</b>	<b>1.85</b>	Earnings per sh <sup>A</sup>	2.20
.92	.92	.92	.92	.94	.98	1.02	.83	.64	.70	.78	.80	.84	.88	.94	1.00	<b>1.06</b>	<b>1.12</b>	Div'ds Decl'd per sh <sup>B</sup>	1.20
3.54	2.81	2.88	3.99	4.83	5.99	6.42	4.26	4.57	5.03	4.88	4.72	4.49	4.53	6.32	5.93	<b>6.75</b>	<b>6.50</b>	Cap'l Spending per sh	7.00
17.24	17.54	17.63	17.71	17.90	18.77	19.54	12.04	12.60	12.82	13.08	13.36	12.44	13.33	13.14	22.71	<b>23.00</b>	<b>24.50</b>	Book Value per sh <sup>C</sup>	27.50
274.26	276.79	279.30	282.18	310.28	313.68	316.04	319.11	323.16	337.02	372.36	382.14	391.76	404.30	411.10	446.38	<b>450.00</b>	<b>450.00</b>	Common Shs Outst'g <sup>D</sup>	450.00
12.1	14.3	15.3	19.4	17.9	18.9	22.7	37.3	23.2	NMF	19.3	21.3	18.7	18.0	19.6	16.8	<b>19.0</b>	<b>19.0</b>	Avg Ann'l P/E Ratio	19.0
.73	.95	.97	1.22	1.14	1.06	1.19	1.88	1.22	NMF	1.04	1.13	.96	.99	11.8	.97	<b>11.8</b>	<b>11.8</b>	Relative P/E Ratio	1.05
5.7%	7.6%	5.7%	4.5%	3.8%	3.3%	2.7%	3.5%	2.8%	2.8%	3.1%	2.9%	3.4%	3.6%	3.3%	3.7%	<b>3.0%</b>	<b>3.0%</b>	Avg Ann'l Div'd Yield	3.0%

**CAPITAL STRUCTURE as of 6/30/24**  
Total Debt \$13477.0 mill. Due in 5 Yrs \$5260 mill.  
LT Debt \$12809.6 mill. LT Interest \$515 mill.  
(Interest cov. earned: 4.5x) (57% of Cap'l)

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Revenues (\$mill)	7200
6470.6	4651.8	4492.5	4874.6	5114.5	5208.9	4681.7	4899.6	5850.6	5505.4	<b>5850</b>	<b>6300</b>	Revenues (\$mill)	7200						
530.7	198.6	328.1	128.6	478.3	549.8	562.6	626.3	648.2	716.3	<b>790</b>	<b>835</b>	Net Profit (\$mill)	990						
36.9%	41.6%	35.7%	71.0%	19.7%	17.0%	18.3%	15.7%	17.2%	17.8%	<b>19.0%</b>	<b>19.0%</b>	Income Tax Rate	19.0%						
--	--	--	--	--	--	2.0%	2.3%	3.5%	3.0%	<b>3.0%</b>	<b>2.5%</b>	AFUDC % to Net Profit	2.5%						

**Leases, Uncapitalized Annual rentals \$9.6 mill.**  
**Pension Assets-12/22 \$1.4 bill. Oblig. \$1.4 bill.**

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Long-Term Debt Ratio	55.0%
56.9%	60.7%	59.8%	63.5%	55.3%	56.8%	61.6%	56.9%	55.7%	52.2%	<b>56.0%</b>	<b>55.0%</b>	Long-Term Debt Ratio	55.0%						
43.1%	39.3%	40.2%	36.5%	37.9%	36.9%	32.5%	33.5%	31.6%	45.5%	<b>44.0%</b>	<b>45.0%</b>	Common Equity Ratio	45.0%						
14331	9792.0	10129	11832	12856	13843	14972	16131	17099	21192	<b>23500</b>	<b>24500</b>	Total Capital (\$mill)	27500						
16017	12112	13068	14360	15543	16912	16620	17882	19843	22275	<b>24500</b>	<b>25750</b>	Net Plant (\$mill)	28000						
5.3%	4.0%	5.0%	2.6%	5.1%	5.3%	5.0%	4.9%	3.8%	3.4%	<b>3.5%</b>	<b>3.5%</b>	Return on Total Cap'l	3.5%						
8.6%	5.2%	8.1%	3.0%	8.3%	9.2%	9.8%	9.0%	9.3%	7.1%	<b>7.5%</b>	<b>7.5%</b>	Return on Shr. Equity	8.0%						
8.6%	5.2%	8.1%	3.0%	9.6%	9.7%	10.4%	10.6%	12.0%	7.4%	<b>7.5%</b>	<b>7.5%</b>	Return on Com Equity	8.0%						
3.4%	NMF	3.0%	NMF	4.0%	3.8%	3.8%	4.2%	4.0%	2.8%	<b>3.0%</b>	<b>3.0%</b>	Retained to Com Eq	3.5%						
61%	NMF	63%	NMF	60%	64%	67%	64%	64%	63%	<b>61%</b>	<b>61%</b>	All Div'ds to Net Prof	55%						

**Common Stock 448,509,837 shs. as of 7/31/24**

**MARKET CAP: \$14.2 billion (Large Cap)**

**CURRENT POSITION 2022 2023 6/30/24 (\$MILL.)**

2022	2023	6/30/24
40.8	2245.4	101.2
2543.5	2254.0	1842.6
2584.3	4499.4	1943.8
899.5	749.4	584.0
1791.9	3072.4	667.4
1969.1	1443.3	1256.6
4660.5	5265.1	2508.0
255%	225%	335%

**BUSINESS:** NiSource Inc. is a holding company for Northern Indiana Public Service Company (NIPSCO), which supplies electricity and gas to the northern third of Indiana. Customers: 488,833 electric in Indiana, 3,200,000 gas in Indiana, Ohio, Pennsylvania, Kentucky, Virginia, Maryland, through its Columbia subsidiaries. Revenue breakdown, 2024: electrical, 32%; gas, 67%; other, less than 1%. Generating capacity, coal, 69.4%; purchased & other, 30.6%. 2023 reported depreciation rates: 3.5% electric, 2.4% gas. Has 7,364 employees. Chairman: Richard L. Thompson. President & Chief Executive Officer: Lloyd Yates. Incorporated: Indiana. Address: 801 East 86th Avenue, Merrillville, Indiana 46410. Telephone: 877-647-5990. Internet: www.nisource.com.

**NiSource reported a solid second-quarter performance.** The utility registered earnings per share of \$0.21, up from \$0.11 in the same period last year. This result was bolstered by key approvals for rate cases in Indiana and Pennsylvania. Lower commodity prices have reduced consumers' energy bills of late, allowing for easier regulatory proceedings. The strong regulatory environment has helped to motivate management to invest more than \$1.2 billion in the first six months of 2024. NiSource expanded its financial leverage in the quarter, issuing roughly \$1.1 billion in five- and 30-year debentures, while retiring all outstanding preferred stock, signaling confidence in its operating environment and investment pipeline.

**Good performance will probably continue throughout the remainder of the year.** We've raised our full-year 2024 earnings per share target by \$0.05, to \$1.75, in line with management's projections. Capital investment will likely accelerate, with lower interest rates expected to begin in September, providing a potential tailwind. Meantime, operating and maintenance costs should prove to be stable throughout the second half of the year. We have slightly tempered our expectations due to strong weather events in July, although management reports having performed well without significant service disruptions despite these difficulties, indicating the company's effective preparedness and responsiveness.

**NiSource's long-term outlook is fairly upbeat.** Management has projected consistent annual earnings growth of 6% to 8% through 2028, underpinned by a \$16.4 billion capital investment plan focused on electric generation (decommissioning coal plants) and gas infrastructure. Regulatory approvals, more-normal commodity prices and underlying economic strength are all crucial to meeting these objective. And, interest in developing data centers in the region could power a tailwind.

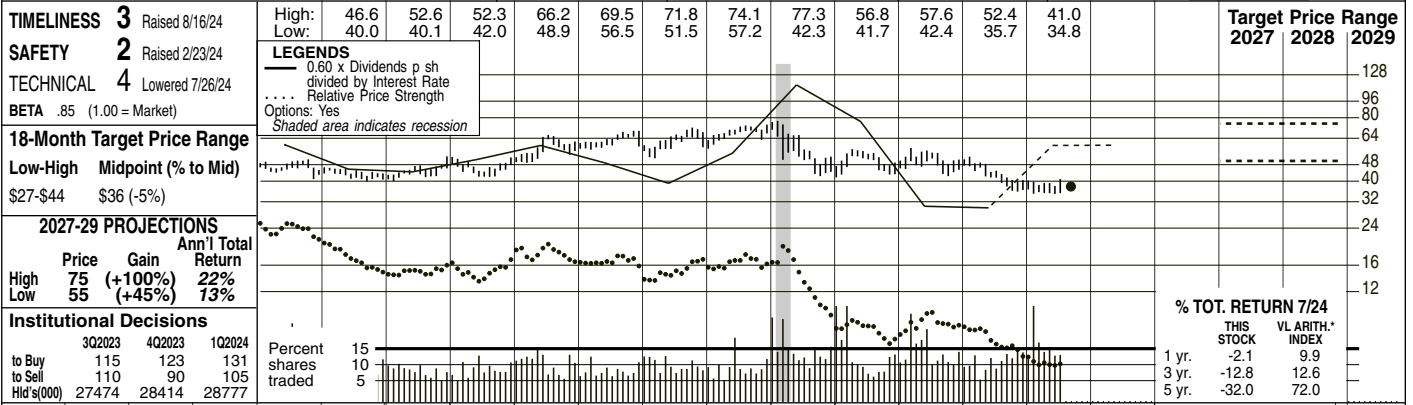
**The stock price has gained as a result of the recent operating strength.** This leaves the total upside out to late decade somewhat suppressed. However, conservative accounts will still find much to appreciate, although currently, higher expected returns can be found from other utilities.

*Earl B. Humes*  
August 23, 2024

(A) Dil. EPS. Excl. gains (losses) on disc. ops.: '08, (\$1.14); '15, (30c); '18, (\$1.48). Next egs. report due early November. Qtr'y egs. may not sum to total due to rounding.	(B) Div's historically paid in mid-Feb., May, Aug., Nov. ■ Div'd reinv. avail.	(D) In mill.	Company's Financial Strength	A
(C) Incl. intang in '23: \$1485.9 million, \$3.33/sh.	(E) Spun off Columbia Pipeline Group (7/15)		Stock's Price Stability	95
			Price Growth Persistence	30
			Earnings Predictability	65

# N.W. NATURAL NYSE-NWN

RECENT PRICE **37.75** P/E RATIO **13.9** (Trailing: 17.3 Median: 24.0) RELATIVE P/E RATIO **0.80** DIV'D YLD **5.2%** VALUE LINE



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
39.16	38.17	30.56	31.72	27.14	28.02	27.64	26.39	23.61	26.52	24.45	24.49	25.29	27.64	29.20	31.82	<b>28.75</b>	<b>28.55</b>	Revenues per sh	<b>31.10</b>
5.31	5.20	5.18	5.00	4.94	5.04	5.05	4.91	4.93	1.04	5.28	5.15	5.69	6.17	5.71	5.83	<b>6.55</b>	<b>6.55</b>	"Cash Flow" per sh	<b>7.15</b>
2.57	2.83	2.73	2.39	2.22	2.24	2.16	1.96	2.12	d1.94	2.33	2.19	2.30	2.56	2.54	2.59	<b>2.30</b>	<b>3.00</b>	Earnings per sh A	<b>3.15</b>
1.52	1.60	1.68	1.75	1.79	1.83	1.85	1.86	1.87	1.88	1.89	1.90	1.91	1.92	1.93	1.94	<b>1.95</b>	<b>1.96</b>	Div'ds Decl'd per sh B	<b>1.98</b>
3.92	5.09	9.35	3.76	4.91	5.13	4.40	4.37	4.87	7.43	7.43	7.95	9.18	9.49	9.53	8.70	<b>10.00</b>	<b>9.50</b>	Cap'l Spending per sh	<b>10.00</b>
23.71	24.88	26.08	26.70	27.23	27.77	28.12	28.47	29.71	25.85	26.41	28.42	29.05	30.04	33.08	34.12	<b>37.40</b>	<b>36.95</b>	Book Value per sh D	<b>39.00</b>
26.50	26.53	26.58	26.76	26.92	27.08	27.28	27.43	28.63	28.74	28.88	30.47	30.59	31.13	35.53	37.63	<b>40.00</b>	<b>42.00</b>	Common Shs Outst'g C	<b>45.00</b>
18.1	15.2	17.0	19.0	21.1	19.4	20.7	23.7	26.9	--	26.6	30.9	25.0	19.5	19.6	16.6	<i>Bold figures are Value Line estimates</i>		Avg Ann'l P/E Ratio	<b>20.0</b>
1.09	1.01	1.08	1.19	1.34	1.09	1.09	1.19	1.41	--	1.44	1.65	1.28	1.06	1.13	.96			Relative P/E Ratio	<b>1.10</b>
3.3%	3.7%	3.6%	3.9%	3.8%	4.2%	4.1%	4.0%	3.3%	3.0%	3.0%	2.8%	3.3%	3.8%	3.9%	4.5%			Avg Ann'l Div'd Yield	<b>3.3%</b>

CAPITAL STRUCTURE as of 6/30/24					2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Revenues (\$mill)	27-29	
Total Debt \$1654.7 mill. Due in 5 Yrs \$1415 mill.					754.0	723.8	676.0	762.2	706.1	746.4	773.7	860.4	1037.4	1197.5	<b>1150</b>	<b>1200</b>	1150	1200	1150	1200	1150	1200	1150	1200	1400
LT Debt \$1574.8 mill. LT Interest \$80 mill.					58.7	53.7	58.9	d55.6	67.3	65.3	70.3	78.7	86.3	93.9	<b>92.5</b>	<b>125</b>	92.5	125	92.5	125	92.5	125	92.5	125	140
(Total interest coverage: 5.0x)					41.5%	40.0%	40.9%	--	26.4%	16.2%	23.1%	25.8%	25.2%	25.7%	<b>25.0%</b>	<b>25.0%</b>	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Pension Assets-12/23 \$283.0 mill. Oblig. \$425.5 mill.					7.8%	7.4%	8.7%	NMF	9.5%	8.8%	9.1%	9.1%	8.3%	7.8%	<b>8.0%</b>	<b>10.5%</b>	8.0%	10.5%	8.0%	10.5%	8.0%	10.5%	8.0%	10.5%	10.1%
Pfd Stock None					44.8%	42.5%	44.4%	47.9%	48.1%	48.2%	49.2%	52.8%	51.5%	52.6%	<b>52.5%</b>	<b>55.0%</b>	52.5%	55.0%	52.5%	55.0%	52.5%	55.0%	52.5%	55.0%	55.0%
Common Stock 38,670,272 shares as of 7/26/24					55.2%	57.5%	55.6%	52.1%	51.9%	51.8%	50.8%	47.2%	48.5%	47.4%	<b>47.5%</b>	<b>45.0%</b>	47.5%	45.0%	47.5%	45.0%	47.5%	45.0%	47.5%	45.0%	45.0%
MARKET CAP \$1.5 billion (Small Cap)					1389.0	1357.7	1529.8	1426.0	1468.9	1672.0	1748.8	1979.7	2421.6	2709.2	<b>3150</b>	<b>3450</b>	3150	3450	3150	3450	3150	3450	3150	3450	3900
CURRENT POSITION					2121.6	2182.7	2260.9	2255.0	2421.4	2438.9	2654.8	2871.4	3114.4	3358.0	<b>3750</b>	<b>3900</b>	3750	3900	3750	3900	3750	3900	3750	3900	4200
Cash Assets					5.8%	5.5%	5.1%	NMF	5.8%	5.2%	5.2%	5.1%	3.6%	3.5%	<b>3.0%</b>	<b>3.0%</b>	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.5%
Other					7.6%	6.9%	6.9%	NMF	8.8%	7.5%	7.9%	8.4%	7.3%	7.3%	<b>6.0%</b>	<b>8.0%</b>	6.0%	8.0%	6.0%	8.0%	6.0%	8.0%	6.0%	8.0%	
Current Assets					7.6%	6.9%	6.9%	NMF	8.8%	7.5%	7.9%	8.4%	7.3%	7.3%	<b>6.0%</b>	<b>8.0%</b>	6.0%	8.0%	6.0%	8.0%	6.0%	8.0%	6.0%	8.0%	8.0%
Accts Payable					1.1%	.6%	.9%	NMF	2.1%	1.4%	1.7%	2.4%	2.1%	1.7%	<b>1.0%</b>	<b>2.5%</b>	1.0%	2.5%	1.0%	2.5%	1.0%	2.5%	1.0%	2.5%	2.5%
Debt Due					85%	92%	87%	NMF	76%	82%	79%	71%	79%	75%	<b>85%</b>	<b>65%</b>	85%	65%	85%	65%	85%	65%	85%	65%	63%
Other					<b>BUSINESS:</b> Northwest Natural Holding Co. distributes natural gas to 1,000 communities, 795,000 customers, in Oregon (88% of customers) and in southwest Washington state. Principal cities served: Portland and Eugene, OR; Vancouver, WA. Service area population: 3.7 mill. (77% in OR). Company buys gas supply from Canadian and U.S. producers; has transportation rights on Northwest Pipeline system. Owns local underground storage. Rev. breakdown: residential, 38%; commercial, 23%; industrial, gas transportation, 39%. Employs 1,380. BlackRock Inc. owns 17.6% of shares; Vanguard, 12.4%; Off./Dir., .84% (4/24 proxy). CEO: David H. Anderson, Inc.: Oregon. Address: 220 NW 2nd Ave., Portland, OR 97209. Tel.: 503-226-4211. Internet: www.nwnatural.com.																				

**Northwest Natural's second-quarter results reflect challenging regulatory conditions.** The company reported a net loss of \$2.8 million, or \$0.07 per share, landing below our earnings target of \$0.05. The broader economic environment in Oregon showed positive signs with low unemployment, but a regulatory lag on the company's investments added pressure from the top down. Inflation compounded matters as operating expenses rose. Too, increased pension costs didn't help. However, healthy customer growth and a focus on cost-saving measures should contribute to the bottom line when the seasons turn.

**Expansion should take a slower pace out to late decade.** We think the bottom line is likely to recover nicely in 2025 on the back of the November rate case. Thereafter, we do not see a particularly strong driver for growth. Customer expansion at about 80 basis points per year is the main catalyst, and housing permits in the operating region are trending upwards. Still, the high cost of capital is restricting rate base growth. The company's water and wastewater utilities could add marginally, with customer growth averaging about 3% and tuck-in acquisition opportunities. Even then, earnings per share may only expand about 5% annually after 2025.

ANNUAL RATES	Past 10 Yrs	Past 5 Yrs	Est'd '21-'23 to '27-'29
Revenues	-2.5%	--	4.5%
"Cash Flow"	1.0%	2.5%	5.0%
Earnings	-1.0%	2.5%	6.5%
Dividends	1.5%	.5%	.5%
Book Value	1.0%	.5%	4.0%

Cal-endar	QUARTERLY REVENUES (\$ mill.)	Full Year
	Mar.31 Jun.30 Sep.30 Dec.31	
2021	315.9 148.9 101.5 294.1	860.4
2022	350.3 195.0 116.8 375.3	1037.4
2023	462.4 237.9 141.5 355.7	1197.5
2024	433.5 211.7 <b>130</b> <b>374.8</b>	<b>1150</b>
2025	<b>450</b> <b>220</b> <b>135</b> <b>395</b>	<b>1200</b>

Cal-endar	EARNINGS PER SHARE A	Full Year
	Mar.31 Jun.30 Sep.30 Dec.31	
2021	1.94 d.02 d.67 1.31	2.56
2022	1.80 .05 d.56 1.36	2.54
2023	2.01 .03 d.65 1.21	2.59
2024	1.69 d.07 <b>d.70</b> <b>1.38</b>	<b>2.30</b>
2025	<b>2.10</b> <b>.05</b> <b>d.60</b> <b>1.45</b>	<b>3.00</b>

Cal-endar	QUARTERLY DIVIDENDS PAID B	Full Year
	Mar.31 Jun.30 Sep.30 Dec.31	
2020	.4775 .4775 .4775 .48	1.91
2021	.48 .48 .48 .483	1.92
2022	.483 .483 .483 .485	1.93
2023	.485 .485 .485 .488	1.94
2024	.488 .488 .488	

(A) Diluted earnings per share. Excludes non-recurring items: '08, (\$0.03); '09, \$0.06; May not sum due to rounding. Next earnings report due in early November.

(B) Dividends historically paid in mid-February, May, August, and November.

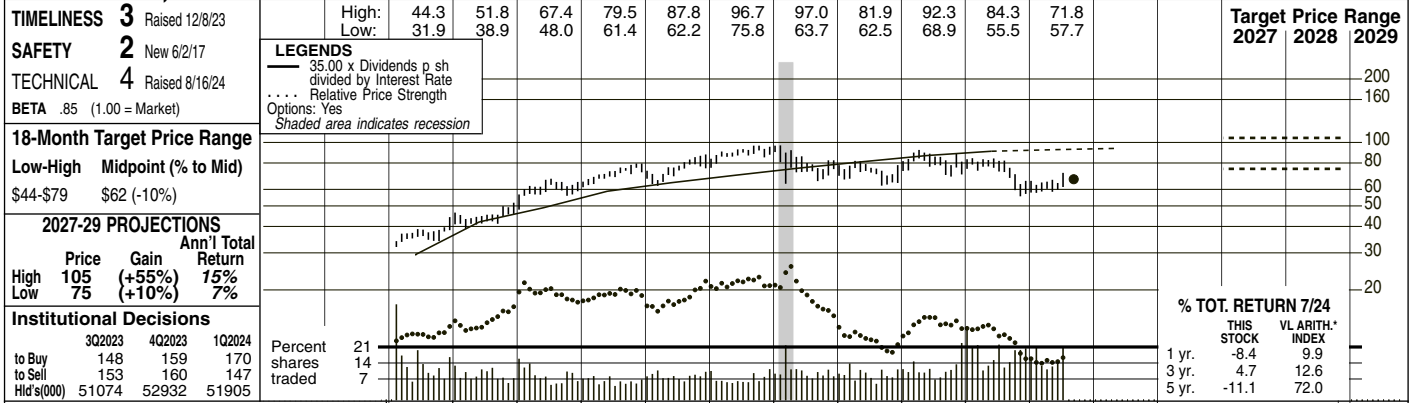
(C) In millions.

(D) Includes intangibles. In 2023: \$163 million, \$4.33/share.

Company's Financial Strength A  
Stock's Price Stability 85  
Price Growth Persistence 25  
Earnings Predictability 15

# ONE GAS, INC. NYSE-OGS

RECENT PRICE **66.89** P/E RATIO **16.7** (Trailing: 16.9 Median: 21.0) RELATIVE P/E RATIO **0.96** DIV'D YLD **4.0%** VALUE LINE



The shares of ONE Gas, Inc. began trading "regular-way" on the New York Stock Exchange on February 3, 2014. That happened as a result of the separation of ONEOK's natural gas distribution operation. Regarding the details of the spinoff, on January 31, 2014, ONEOK distributed one share of OGS common stock for every four shares of ONEOK common stock held by ONEOK shareholders of record as of the close of business on January 21. It should be mentioned that ONEOK did not retain any ownership interest in the new company.

**CAPITAL STRUCTURE as of 6/30/24**  
Total Debt \$3206.6 mill. Due in 5 Yrs \$890.0 mill.  
LT Debt \$2146.9 mill. LT Interest \$120.0 mill.  
(LT interest earned: 3.4x; total interest coverage: 3.4x)  
**Leases, Uncapitalized** Annual rentals \$6.7 mill.  
**Pfd Stock** None  
**Pension Assets-12/23** \$977.0 mill.  
**Obliq.** \$962.1 mill.  
**Common Stock** 56,654,351 shs.  
**as of 7/29/24**  
**MARKET CAP: \$3.8 billion (Mid Cap)**

CURRENT POSITION	2022	2023	6/30/24
Cash Assets	9.7	18.8	10.7
Other	1207.9	746.4	589.5
Current Assets	1217.6	765.2	600.2
Accts Payable	360.5	278.1	165.0
Debt Due	572.7	888.9	1059.7
Other	256.2	310.2	232.3
Current Liab.	1189.4	1477.2	1457.0
Fix. Chg. Cov.	540%	390%	410%

ANNUAL RATES	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	--	7.0%	9.5%
"Cash Flow"	--	7.0%	9.0%
Earnings	--	6.0%	3.5%
Dividends	--	8.5%	2.5%
Book Value	--	4.5%	4.5%

Cal-endar	QUARTERLY REVENUES (\$ mill.)				Full Year
	Mar.31	Jun.30	Sep.30	Dec.31	
2021	625.3	315.6	273.9	593.8	1808.6
2022	971.5	428.9	359.4	818.2	2578.0
2023	1032.1	398.1	335.8	606.0	2372.0
2024	758.3	354.1	320	617.6	2050
2025	800	375	350	675	2200

Cal-endar	EARNINGS PER SHARE <sup>A</sup>				Full Year
	Mar.31	Jun.30	Sep.30	Dec.31	
2021	1.79	.56	.38	1.12	3.85
2022	1.83	.59	.44	1.23	4.08
2023	1.84	.58	.45	1.27	4.14
2024	1.75	.48	.41	1.26	3.90
2025	1.85	.55	.43	1.27	4.10

Cal-endar	QUARTERLY DIVIDENDS PAID <sup>B</sup>				Full Year
	Mar.31	Jun.30	Sep.30	Dec.31	
2020	.54	.54	.54	.54	2.16
2021	.58	.58	.58	.58	2.32
2022	.62	.62	.62	.62	2.48
2023	.65	.65	.65	.65	2.60
2024	.66	.66	.66	.66	2.64

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
Revenues per sh	34.92	29.62	27.30	29.43	31.08	31.32	28.78	33.72	46.58	41.95	<b>36.30</b>	<b>38.95</b>		70.15
"Cash Flow" per sh	4.52	4.82	5.43	5.96	6.32	6.96	7.36	7.71	8.13	9.04	<b>9.10</b>	<b>9.45</b>		13.95
Earnings per sh <sup>A</sup>	2.07	2.24	2.65	3.02	3.25	3.51	3.68	3.85	4.08	4.14	<b>3.90</b>	<b>4.10</b>		5.00
Div'ds Decl'd per sh <sup>B</sup>	.84	1.20	1.40	1.68	1.84	2.00	2.16	2.32	2.48	2.60	<b>2.64</b>	<b>2.68</b>		2.85
Cap'l Spending per sh	5.70	5.63	5.91	6.81	7.50	7.91	8.87	9.23	11.01	11.79	<b>12.10</b>	<b>12.30</b>		12.60
Book Value per sh	34.45	35.24	36.12	37.47	38.86	40.35	42.01	43.81	46.69	48.91	<b>50.15</b>	<b>53.55</b>		60.20
Common Shs Outst'g <sup>C</sup>	52.08	52.26	52.28	52.31	52.57	52.77	53.17	53.63	55.35	56.55	<b>56.50</b>	<b>56.50</b>		57.00
Avg Ann'l P/E Ratio	17.8	19.8	22.7	23.5	23.1	25.3	21.7	18.9	19.9	18.0	<b>18.0</b>	<b>18.0</b>		18.0
Relative P/E Ratio	.94	1.00	1.19	1.18	1.25	1.35	1.11	1.02	1.16	1.01	<b>1.01</b>	<b>1.01</b>		1.00
Avg Ann'l Div'd Yield	2.3%	2.7%	2.3%	2.4%	2.5%	2.3%	2.7%	3.2%	3.1%	3.5%	<b>3.5%</b>	<b>3.5%</b>		3.2%
Revenues (\$mill)	1818.9	1547.7	1427.2	1539.6	1633.7	1652.7	1530.3	1808.6	2578.0	2372.0	<b>2050</b>	<b>2200</b>		4000
Net Profit (\$mill)	109.8	119.0	140.1	159.9	172.2	186.7	196.4	206.4	221.7	231.2	<b>220</b>	<b>230</b>		285
Income Tax Rate	38.4%	38.0%	37.8%	36.4%	23.7%	18.7%	17.5%	16.3%	17.3%	14.9%	<b>16.5%</b>	<b>16.5%</b>		20.0%
Net Profit Margin	6.0%	7.7%	9.8%	10.4%	10.5%	11.3%	12.8%	11.4%	8.6%	9.7%	<b>10.7%</b>	<b>10.5%</b>		7.1%
Long-Term Debt Ratio	40.1%	39.5%	38.7%	37.8%	38.6%	37.7%	41.5%	61.1%	50.7%	43.8%	<b>45.0%</b>	<b>45.0%</b>		51.0%
Common Equity Ratio	59.9%	60.5%	61.3%	62.2%	61.4%	62.3%	58.5%	38.9%	49.3%	56.2%	<b>55.0%</b>	<b>55.0%</b>		49.0%
Total Capital (\$mill)	2995.3	3042.9	3080.7	3153.5	3328.1	3415.5	3815.7	6032.9	5246.2	4926.3	<b>5150</b>	<b>5500</b>		7000
Net Plant (\$mill)	3293.7	3511.9	3731.6	4007.6	4283.7	4565.2	4867.1	5190.8	5628.8	6135.2	<b>6550</b>	<b>6925</b>		8200
Return on Total Cap'l	4.4%	4.7%	5.2%	5.8%	5.9%	6.4%	6.0%	3.9%	5.0%	5.9%	<b>5.5%</b>	<b>5.5%</b>		5.5%
Return on Shr. Equity	6.1%	6.5%	7.4%	8.2%	8.4%	8.8%	8.8%	8.8%	8.6%	8.4%	<b>8.0%</b>	<b>7.5%</b>		8.5%
Return on Com Equity	6.1%	6.5%	7.4%	8.2%	8.4%	8.8%	8.8%	8.8%	8.6%	8.4%	<b>8.0%</b>	<b>7.5%</b>		8.5%
Retained to Com Eq	3.7%	3.1%	3.5%	3.7%	3.7%	3.8%	3.7%	3.5%	3.4%	3.2%	<b>2.5%</b>	<b>2.5%</b>		3.5%
All Div'ds to Net Prof	40%	53%	52%	55%	56%	56%	58%	60%	60%	62%	<b>68%</b>	<b>68%</b>		57%

**BUSINESS:** ONE Gas, Inc. provides natural gas distribution services to more than two million customers. There are three divisions: Oklahoma Natural Gas, Kansas Gas Service, and Texas Gas Service. The company purchased 160 Bcf of natural gas supply in 2023, compared to 165 Bcf in 2022. Total volumes delivered by customer (fiscal 2023): transportation, 59.3%; residential, 29.7%; commercial

**Results for ONE Gas have been uninspiring so far this year.** Through the first half, earnings per share of \$2.23 were 8% lower than the \$2.42 tally registered in 2023. This stemmed, to some degree, from increased employee-related costs, reflecting planned investments in the company's workforce and ongoing insourcing efforts. Depreciation and amortization expense rose, too, given additional capital investments. Also, sales volumes dropped and interest expense climbed. But new rates provided somewhat of an offset. Nevertheless, at this juncture, it seems that full-year profits will decline around 6%, to \$3.90 per share, compared to 2023's \$4.14 total. Regarding 2025, however, we believe a 5% rebound, to \$4.10 a share, is possible. That's based, to a certain extent, on our assumption that business conditions cooperate.

**The Financial Strength rating is solid, at B++.** When the June period concluded, cash and equivalents were \$10.7 million. Moreover, ONE Gas possesses a nearly \$1.3 billion revolving credit facility expiring in March, 2028. Also, at the end of the second quarter, long-term debt was a rea-

sonable 43% of total capital and short-term borrowings did not seem to be a big issue. All told, the energy firm ought to continue to satisfy its various obligations with minimal difficulty.

**This year's capital expenditures, including asset removal costs, are anticipated to be around \$750 million.** (That would be modestly above the 2023 figure of \$728.7 million.) Nearly 75% of the budget is dedicated to system integrity and pipeline replacement projects. It's worth mentioning that the energy firm projects total spending to be around \$4.2 billion between 2024 and 2028, with roughly the same percentage of funds allocated to where they are currently. Those objectives appear achievable assuming, of course, that the balance sheet stays in sound shape.

**These shares should be of interest to conservative, income-focused investors.** The dividend yield looks decent versus other stocks in our Natural Gas Utility Industry. Consider, also, the 2 (Above Average) Safety rank and good grade for Price Stability.

(A) Diluted EPS. Excludes nonrecurring gain: 2017, \$0.06. Next earnings report due early Nov. Quarterly EPS figures for 2022 don't equal total due to rounding.

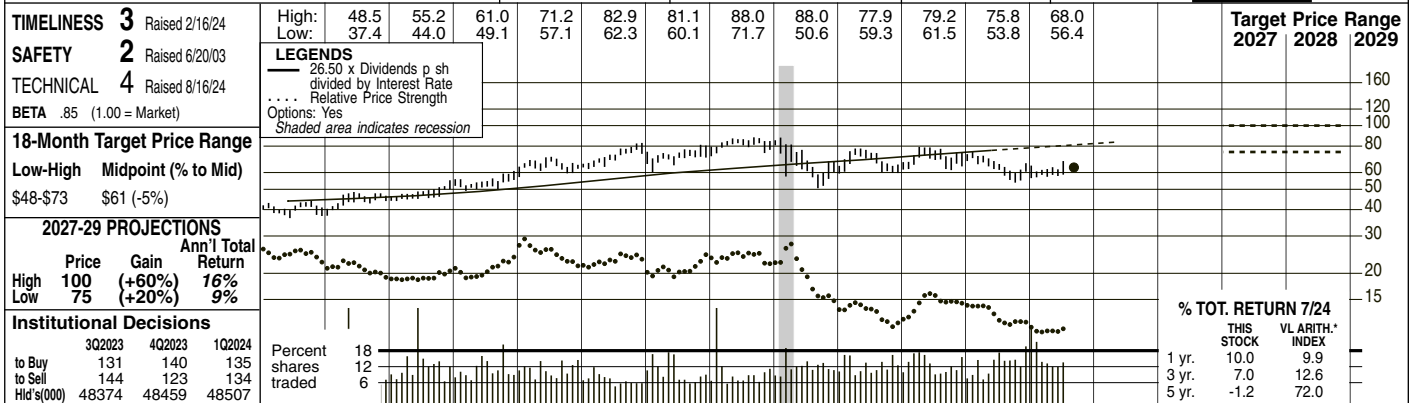
(B) Dividends historically paid in early March, June, Sept., and Dec. ■ Dividend reinvestment plan. Direct stock purchase plan.  
(C) In millions.

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Company's Financial Strength	B++
Stock's Price Stability	85
Price Growth Persistence	50
Earnings Predictability	100

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**SPIRE INC. NYSE-SR** RECENT PRICE **63.48** P/E RATIO **15.3** (Trailing: 15.3 Median: 19.0) RELATIVE P/E RATIO **0.88** DIV'D YLD **4.9%** **VALUE LINE**



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
100.44	85.49	77.83	71.48	49.90	31.10	37.68	45.59	33.68	36.07	38.78	38.30	35.96	43.24	41.88	50.12	<b>45.15</b>	<b>45.25</b>	Revenues per sh <sup>A</sup>	<b>57.25</b>
4.22	4.56	4.11	4.62	4.58	3.12	3.87	6.15	6.16	6.54	7.55	7.12	5.25	9.09	8.44	8.60	<b>8.90</b>	<b>9.25</b>	"Cash Flow" per sh	<b>11.00</b>
2.64	2.92	2.43	2.86	2.79	2.02	2.35	3.16	3.24	3.43	4.33	3.52	1.44	4.96	3.95	3.85	<b>4.30</b>	<b>4.55</b>	Earnings per sh <sup>A B</sup>	<b>5.50</b>
1.49	1.53	1.57	1.61	1.66	1.70	1.76	1.84	1.96	2.10	2.25	2.37	2.49	2.60	2.74	2.88	<b>3.02</b>	<b>3.16</b>	Div'ds Decl'd per sh <sup>C</sup>	<b>3.60</b>
2.57	2.36	2.56	3.02	4.83	4.00	3.96	6.68	6.42	9.08	9.86	16.15	12.37	12.09	10.52	12.45	<b>14.30</b>	<b>11.25</b>	Cap'l Spending per sh	<b>14.50</b>
22.12	23.32	24.02	25.56	26.67	32.00	34.93	36.30	38.73	41.26	44.51	45.14	44.19	46.74	49.08	50.29	<b>52.75</b>	<b>55.50</b>	Book Value per sh <sup>D</sup>	<b>66.05</b>
21.99	22.17	22.29	22.43	22.55	32.70	43.18	43.36	45.65	48.26	50.67	50.97	51.60	51.70	52.50	53.20	<b>58.00</b>	<b>60.00</b>	Common Shs Outst'g <sup>E</sup>	<b>62.00</b>
14.3	13.4	13.7	13.0	14.5	21.3	19.8	16.5	19.6	19.8	16.7	22.8	51.1	13.6	17.5	17.3	<b>16.0</b>	<b>16.0</b>	Avg Ann'l P/E Ratio	<b>16.0</b>
.86	.89	.87	.82	.92	1.20	1.04	.83	1.03	1.00	.90	1.21	2.62	.73	1.01	1.00	<b>1.00</b>	<b>1.00</b>	Relative P/E Ratio	<b>.90</b>
3.9%	3.9%	4.7%	4.3%	4.1%	4.0%	3.8%	3.5%	3.1%	3.1%	3.1%	3.0%	3.4%	3.8%	4.0%	4.3%	<b>4.0%</b>	<b>4.3%</b>	Avg Ann'l Div'd Yield	<b>4.1%</b>

**CAPITAL STRUCTURE as of 6/30/24**  
 Total Debt \$4500.3 mill. Due in 5 Yrs \$2310.0 mill.  
 LT Debt \$3422.3 mill. LT Interest \$140.0 mill.  
 (Total interest coverage: 2.4x)

**Leases, Uncapitalized** Annual rentals \$9.8 mill.  
**Pension Assets-9/23** \$630.3 mill.

**Pfd Stock** \$242.0 mill. **Pfd Div'd** \$14.8 mill.  
**Common Stock** 57,750,474 shs.  
 as of 7/28/24

**MARKET CAP: \$3.7 billion (Mid Cap)**

CURRENT POSITION	2022	2023	6/30/24
Cash Assets	6.5	5.6	7.4
Other	1585.5	1071.3	818.4
Current Assets	1592.0	1076.9	825.8
Accts Payable	617.4	253.1	205.2
Debt Due	1318.7	1112.1	1078.0
Other	417.5	390.2	426.6
Current Liab.	2353.6	1755.4	1709.8
Fix. Chg. Cov.	393%	294%	310%

1627.2	1976.4	1537.3	1740.7	1965.0	1952.4	1855.4	2235.5	2198.5	2666.3	<b>2620</b>	<b>2715</b>	Revenues (\$mill) <sup>A</sup>	<b>3550</b>
84.6	136.9	144.2	161.6	214.2	184.6	88.6	271.7	220.8	217.5	<b>240</b>	<b>260</b>	Net Profit (\$mill)	<b>340</b>
27.6%	31.2%	32.5%	32.4%	--	15.7%	12.3%	20.1%	21.1%	15.1%	<b>19.5%</b>	<b>19.5%</b>	Income Tax Rate	<b>24.0%</b>
5.2%	6.9%	9.4%	9.3%	10.9%	9.5%	4.8%	12.2%	10.0%	8.2%	<b>9.2%</b>	<b>9.6%</b>	Net Profit Margin	<b>9.6%</b>
55.1%	53.0%	50.9%	50.0%	45.7%	45.0%	49.0%	52.5%	51.2%	54.9%	<b>51.0%</b>	<b>51.0%</b>	Long-Term Debt Ratio	<b>51.0%</b>
44.9%	47.0%	49.1%	50.0%	54.3%	49.7%	46.1%	43.2%	44.6%	41.3%	<b>45.0%</b>	<b>45.0%</b>	Common Equity Ratio	<b>45.0%</b>
3359.4	3345.1	3601.9	3986.3	4155.5	4625.6	4946.0	5597.3	5777.0	6471.3	<b>6800</b>	<b>7400</b>	Total Capital (\$mill)	<b>9100</b>
2759.7	2941.2	3300.9	3665.2	3970.5	4352.0	4680.1	5055.7	5370.4	5778.9	<b>6150</b>	<b>6530</b>	Net Plant (\$mill)	<b>7675</b>
3.1%	5.1%	4.9%	5.0%	6.3%	5.1%	2.9%	5.8%	4.9%	4.8%	<b>5.0%</b>	<b>5.0%</b>	Return on Total Cap'l	<b>5.5%</b>
5.6%	8.7%	8.2%	8.1%	9.5%	7.3%	3.5%	10.2%	7.8%	7.5%	<b>8.0%</b>	<b>8.0%</b>	Return on Shr. Equity	<b>8.5%</b>
5.6%	8.7%	8.2%	8.1%	9.5%	7.9%	3.2%	10.6%	8.0%	7.6%	<b>8.0%</b>	<b>8.0%</b>	Return on Com Equity	<b>8.5%</b>
1.5%	3.7%	3.3%	3.3%	4.7%	2.7%	NMF	5.1%	2.5%	1.9%	<b>2.0%</b>	<b>1.9%</b>	Retained to Com Eq	<b>2.5%</b>
73%	58%	59%	60%	51%	66%	NMF	54%	71%	76%	<b>77%</b>	<b>75%</b>	All Div'ds to Net Prof	<b>70%</b>

**Business:** Spire Inc., formerly known as the Laclede Group, Inc., is a holding company for natural gas utilities, which distributes natural gas across Missouri, including the cities of St. Louis and Kansas City, Alabama, and Mississippi. Has roughly 1.7 million customers. Acquired Missouri Gas 9/13, Alabama Gas Co 9/14. Utility terms sold and transported in fiscal 2023: 3.2 bill. Revenue mix for regulated operations: residential, 67%; commercial and industrial, 25%; transportation, 5%; other, 3%. Officers and directors own 2.9% of common shares; American Century Companies, 15.4% (12/23 proxy). Chairman: Edward Glotzbach; CEO: Steve Lindsey, Inc.: Missouri. Address: 700 Market Street, St. Louis, Missouri 63101. Tel.: 314-342-0500. Internet: www.spireenergy.com.

ANNUAL RATES	Past 10 Yrs	Past 5 Yrs	Est'd '21-'23 to '27-'29
Revenue (per sh)	-1.0%	4.5%	4.0%
"Cash Flow"	8.0%	5.0%	4.0%
Earnings	5.0%	3.0%	4.5%
Dividends	5.0%	5.5%	4.5%
Book Value	5.5%	3.5%	5.5%

**Spire's earnings ought to improve nicely in fiscal 2024 (ends September 30th).** Through the first nine months, the bottom line advanced 7%, to \$4.82 a share, versus the prior-year figure of \$4.51. This was made possible partially by the Gas Utility unit, which benefited from new rates. The Midstream segment and Gas Marketing division posted better results for that period, too. If there are no major downside surprises during the fourth quarter, full-year per-share profits may recover some 12%, to \$4.30, compared to fiscal 2023's \$3.85 tally. Regarding next year, we think earnings per share can rise another 6% or so, to \$4.55, assuming that business conditions cooperate. Improvements in operational effectiveness should lend additional support.

ship adds that it expects total expenditures from fiscal 2024 through fiscal 2033 to be \$7.3 billion (increased from \$7.2 billion previously). Assuming that finances remain in solid condition, we believe that Spire will have little trouble achieving those goals.

Fiscal Year Ends	Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2021	512.6	1104.9	327.8	290.2	2235.5
2022	555.4	880.9	448.0	314.2	2198.5
2023	814.0	1123.4	418.5	310.4	2666.3
2024	756.6	1128.5	414.1	<b>320.8</b>	<b>2620</b>
2025	<b>795</b>	<b>1140</b>	<b>445</b>	<b>335</b>	<b>2715</b>

Fiscal Year Ends	Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2021	1.65	3.55	.03	d.26	4.96
2022	1.01	3.27	d.10	d.20	3.95
2023	1.66	3.33	d.48	d.66	3.85
2024	1.52	3.58	d.28	<b>d.52</b>	<b>4.30</b>
2025	<b>1.50</b>	<b>3.45</b>	<b>d.16</b>	<b>d.24</b>	<b>4.55</b>

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.6225	.6225	.6225	.6225	2.49
2021	.65	.65	.65	.65	2.60
2022	.685	.685	.685	.685	2.74
2023	.72	.72	.72	.72	2.88
2024	.755	.755			

**The capital spending budget for this year was boosted from \$800 million to \$830 million (prompted by the further deployment of advanced meters).** That's around 25% higher than the fiscal 2023 level of \$662.5 million. Funds are being deployed to such areas as infrastructure upgrades at the utilities and new business development initiatives. Leader-

**We are optimistic about the company's performance out to 2027-2029.** The gas utilities presently serve about 1.7 million customers in Mississippi, Alabama, and Missouri. Also, the other operations, especially pipelines, hold promise. Additional expansionary projects and technological enhancements in customer service and elsewhere should be beneficial to Spire, as well. Finally, future acquisitions are likely, given the sound balance sheet, but size and timing factors prevent us from including them in our figures. So, at the current configuration, annual bottom-line growth stands to be in the range of 5%-7% over the 3- to 5-year horizon.

**The stock's main attraction is the dividend yield, which stacks up well versus those of other equities in Value Line's Natural Gas Utility Industry.**  
 Frederick L. Harris, III August 23, 2024

(A) Fiscal year ends Sept. 30th. (B) Based on diluted shares outstanding. Excludes gain from discontinued operations: '08, 94c. Next earnings report due late Oct. (C) Dividends paid in early January, April, July, and October. (D) Dividend reinvestment plan available. (E) Incl. deferred charges. In '23: \$1,171.6 mill., \$22.02/sh. (F) Qlty. egs. may not sum due to rounding or change in shares outstanding.

**Summary - Discounted Cash Flow (DCF) Analysis  
Gas and Electric Groups**

Company - Gas Group	Dividend Yield	Sustainable Growth	DCF Result - Sustainable Growth	Analyst Growth	DCF Result - Analyst Growth
Atmos Energy Corp. (ATO)	2.3%	4.0%	6.3%	7.1%	9.4%
New Jersey Resources Corp. (NJR)	3.6%	4.0%	7.6%	5.5%	9.1%
NiSource Inc. (NI)	3.1%	4.0%	7.1%	8.1%	11.2%
Northwest Natural Gas Co. (NWN)	4.9%	4.0%	8.9%	4.7%	9.6%
ONE Gas Inc. (OGS)	3.6%	4.0%	7.6%	4.5%	8.1%
Spire, Inc. (SR)	4.6%	4.0%	8.6%	5.3%	9.9%
<b>Average - Gas Group</b>	<b>3.7%</b>	<b>4.0%</b>	<b>7.7%</b>	<b>5.9%</b>	<b>9.6%</b>

Company - Electric Group	Dividend Yield	Sustainable Growth	DCF Result - Sustainable Growth	Analyst Growth	DCF Result - Analyst Growth
Alliant Energy Corp. (LNT)	3.2%	4.0%	7.2%	7.0%	10.2%
Ameren Corp. (AEE)	3.1%	4.0%	7.1%	6.3%	9.4%
American Electric Power, Inc. (AEP)	3.7%	4.0%	7.7%	5.3%	9.0%
CMS Energy Corp. (CMS)	2.9%	4.0%	6.9%	6.9%	9.8%
Entergy Corp. (ETR)	3.6%	4.0%	7.6%	6.5%	10.1%
Eversource Inc.	4.2%	4.0%	8.2%	5.9%	10.1%
MGE Energy, Inc. (MGEE)	2.0%	4.0%	6.0%	5.5%	7.5%
OGE Energy Corp. (OGE)	4.2%	4.0%	8.2%	4.3%	8.5%
WEC Energy Group (WEC)	3.5%	4.0%	7.5%	6.6%	10.1%
<b>Average - Electric Group</b>	<b>3.4%</b>	<b>4.0%</b>	<b>7.4%</b>	<b>6.0%</b>	<b>9.4%</b>

<b>Average - Gas &amp; Electric Groups</b>	<b>3.5%</b>	<b>4.0%</b>	<b>7.5%</b>	<b>6.0%</b>	<b>9.5%</b>
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**Dividend Yield Data - Gas and Electric Groups**

<b>Gas Group</b>	<b>Quarterly Dividend *</b>	<b>Annual Dividend</b>	<b>Stock Price **</b>	<b>Dividend Yield</b>
Atmos Energy Corp. (ATO)	0.805	\$3.22	\$139.53	2.3%
New Jersey Resources Corp. (NJR)	0.420	\$1.68	\$46.55	3.6%
NiSource Inc. (NI)	0.265	\$1.06	\$34.49	3.1%
Northwest Natural Gas Co. (NWN)	0.488	\$1.95	\$40.05	4.9%
ONE Gas Inc. (OGS)	0.66	\$2.64	\$73.33	3.6%
Spire, Inc.(SR)	0.755	\$3.02	\$65.80	4.6%
<b>Average</b>	<b>0.566</b>	<b>\$2.26</b>	<b>\$66.62</b>	<b>3.7%</b>

\* Value Line - 08/23/2024.

\*\* All prices are adjusted closing prices reported by Yahoo! Finance, <http://finance.yahoo.com>.

<b>Electric Group</b>	<b>Quarterly Dividend *</b>	<b>Annual Dividend</b>	<b>Stock Price</b>	<b>Dividend Yield</b>
Alliant Energy Corp. (LNT)	\$0.480	\$1.92	\$60.58	3.2%
Ameren Corp. (AEE)	\$0.670	\$2.68	\$87.02	3.1%
American Electric Power, Inc. (AEP)	\$0.930	\$3.72	\$100.52	3.7%
CMS Energy Corp. (CMS)	\$0.515	\$2.06	\$70.49	2.9%
Entergy Corp. (ETR)	\$1.20	\$4.80	\$132.16	3.6%
Evergy Inc. (EVRG)	\$0.643	\$2.57	\$60.99	4.2%
MGE Energy, Inc.(MGEE)	\$0.450	\$1.80	\$91.23	2.0%
OGE Energy Corp. (OGE)	\$0.421	\$1.69	\$40.41	4.2%
WEC Energy Group (WEC)	\$0.835	\$3.34	\$96.29	3.5%
<b>Average - Electric</b>	<b>\$0.683</b>	<b>\$2.73</b>	<b>\$82.19</b>	<b>3.4%</b>

<b>Average - Gas and Electric</b>	<b>\$0.624</b>	<b>\$2.50</b>	<b>\$74.41</b>	<b>3.5%</b>
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\* Value Line - 09/06/2024.

\*\* All prices are adjusted closing prices reported by Yahoo! Finance, <http://finance.yahoo.com>.



Stock Prices - Electric and Gas Groups

Symbol	LNT	AEE	AEP	CMS	ETR	EVRG	MGEE	OGE	WEC	ATO	NJR	NI	NWN	OGS	SR
30-day Average	60.58	87.02	100.52	70.49	132.16	60.99	91.23	40.41	96.29	139.53	46.55	34.49	40.05	73.33	65.80
10/28/24	61.14	88.12	99.11	71.16	136.32	60.97	91.69	40.65	97.00	141.49	46.39	35.14	40.41	73.69	65.27
10/25/24	60.74	87.80	98.19	70.76	135.38	60.77	90.68	40.47	97.19	140.72	46.00	34.82	39.96	73.06	64.83
10/24/24	61.91	89.01	99.39	71.77	137.47	61.64	91.79	40.98	98.81	142.67	46.42	35.26	40.33	73.60	65.62
10/23/24	61.92	89.20	100.83	72.10	136.95	61.96	91.46	41.02	99.53	143.11	46.76	35.31	40.56	73.76	65.83
10/22/24	61.04	87.76	99.89	71.03	134.98	61.51	90.82	40.72	98.69	141.92	46.80	34.77	40.55	73.70	66.39
10/21/24	61.36	88.23	100.16	71.17	135.04	61.20	92.17	40.80	99.43	142.21	46.61	34.93	40.49	73.87	66.25
10/18/24	62.17	88.84	100.69	71.29	135.28	61.12	93.21	41.15	99.85	143.26	47.02	35.14	40.67	74.76	65.25
10/17/24	61.98	88.31	100.91	71.01	134.63	60.78	92.54	40.57	99.14	143.76	47.01	34.96	40.55	74.48	63.78
10/16/24	62.29	88.73	101.32	71.17	134.32	61.15	94.47	40.99	98.75	143.94	47.64	35.10	41.22	74.25	66.80
10/15/24	61.08	87.93	99.66	70.30	133.36	60.34	91.90	40.62	97.22	142.00	46.61	34.49	40.55	72.85	65.56
10/14/24	60.38	87.25	98.79	69.87	131.90	59.73	90.70	40.11	96.30	140.28	46.04	34.22	40.25	72.35	65.26
10/11/24	59.67	86.45	98.25	69.34	130.64	59.34	90.52	39.84	95.45	139.36	45.68	33.93	39.84	71.71	64.87
10/10/24	58.98	85.81	97.22	69.14	129.06	59.06	89.66	39.65	93.95	138.20	45.22	33.74	39.00	70.80	63.90
10/09/24	59.56	86.38	97.72	69.62	130.05	59.57	90.02	39.94	94.31	138.04	45.46	33.99	39.25	71.36	64.35
10/08/24	59.59	86.75	98.20	69.97	130.53	59.86	88.92	39.84	94.35	138.23	45.19	34.12	38.84	71.60	64.49
10/07/24	59.34	87.14	98.06	69.77	130.90	59.59	89.34	39.76	94.14	137.66	45.32	34.02	38.88	72.05	64.25
10/04/24	60.19	87.74	100.28	71.22	132.50	60.33	90.95	40.20	95.48	139.84	45.90	34.64	39.52	73.43	65.12
10/03/24	60.57	88.02	101.37	71.14	133.00	60.77	91.06	40.52	96.31	139.22	45.96	34.69	39.12	72.73	65.03
10/02/24	60.59	87.40	101.81	71.25	132.73	61.27	91.24	40.79	96.26	139.12	46.27	34.68	39.67	72.94	65.69
10/01/24	61.02	87.50	102.22	71.05	132.95	61.64	91.83	40.67	96.75	138.98	46.86	34.83	40.40	73.93	66.93
09/30/24	60.69	87.46	102.60	70.63	131.61	62.01	91.45	40.59	96.18	138.71	47.20	34.65	40.82	74.42	67.29
09/27/24	60.74	86.49	101.84	70.43	131.13	61.94	91.03	40.42	95.26	137.78	46.92	34.38	40.46	74.20	67.14
09/26/24	59.90	86.06	100.74	69.95	129.58	61.53	90.06	40.17	94.61	136.77	46.60	34.12	40.08	73.70	66.34
09/25/24	59.95	86.34	101.15	69.83	129.74	61.75	90.52	40.27	94.60	136.58	46.94	34.18	40.03	73.97	66.78
09/24/24	60.05	85.41	101.41	70.08	130.03	61.71	91.94	40.35	94.54	136.48	47.01	34.25	40.00	74.24	66.79
09/23/24	60.35	85.64	102.53	70.29	130.03	62.00	92.42	40.57	95.18	137.35	47.36	34.27	39.95	74.29	67.10
09/20/24	59.72	85.62	102.15	69.84	129.25	61.65	91.47	40.29	94.72	136.56	47.19	34.08	39.48	73.54	66.56
09/19/24	59.75	83.62	101.74	69.23	127.68	61.07	90.70	39.70	93.78	136.25	47.24	33.83	40.01	73.64	66.77
09/18/24	60.33	84.62	103.22	70.00	128.61	61.55	90.83	40.19	95.24	136.53	47.24	34.07	40.06	73.31	66.80
09/17/24	60.31	85.02	104.21	70.26	129.08	61.91	91.58	40.40	95.74	138.15	47.57	34.18	40.49	73.52	66.92

All prices are adjusted closing prices reported by Yahoo! Finance, <http://finance.yahoo.com>

**Nominal and Real GDP \***

<b>Years</b>	<b>Nom. GDP</b>	<b>Real GDP</b>
2024-2034	4.0%	2.0%
2035-2044	3.7%	1.6%
2045-2054	3.6%	1.6%
<b>Average</b>	<b>3.8%</b>	<b>1.7%</b>

\* Attachment LDC-5, page 40. CBO, The Long-Term Budget Outlook, 2024-2054.

Nominal GDP: Does not account for inflation or deflation.

Real GDP: Is nominal GDP that has been adjusted to remove the effects of changes in prices.

**DCF Equity Growth Rates  
Analysts Projected EPS Growth Rate Estimates  
Gas and Electric Groups**

<b>Company</b>	<b>Yahoo Fin.</b>	<b>Zacks</b>	<b>Value Line *</b>	<b>Average</b>
Atmos Energy Corp. (ATO)	7.4%	7.0%	7.0%	7.1%
New Jersey Resources (NJR)	6.0%	N/A	5.0%	5.5%
NiSource Inc. (NI)	7.7%	7.0%	9.5%	8.1%
Northwest Natural (NWN)	2.8%	N/A	6.5%	4.7%
ONE Gas Inc. (OGS)	5.0%	5.0%	3.5%	4.5%
Spire Inc. (SR)	6.4%	5.0%	4.5%	5.3%
<b>Average - Gas</b>	<b>5.9%</b>	<b>6.0%</b>	<b>6.0%</b>	<b>5.9%</b>

Sources: *Value Line*; <http://finance.yahoo.com>; [www.zacks.com](http://www.zacks.com); October 2024. See links below.

Yahoo Finance - <https://www.finance.yahoo.com/quote/>

Zacks - <https://www.zacks.com/stock/quote/>

\* From preceding page

<b>Company</b>	<b>Yahoo Fin.</b>	<b>Zacks</b>	<b>Value Line *</b>	<b>Average</b>
Alliant Energy (LNT)	7.7%	6.8%	6.5%	7.0%
Ameren Corp. (AEE)	6.2%	6.6%	6.0%	6.3%
American Electric (AEP)	6.6%	6.2%	3.0%	5.3%
CMS Energy Corp. (CMS)	7.6%	7.6%	5.5%	6.9%
Entergy Corp. (ETR)	7.1%	7.3%	6.0%	6.5%
Evergy Inc. (EVRG)	5.8%	5.8%	6.0%	5.9%
MGE Energy Inc. (MGEE)	5.4%	N/A	5.5%	5.5%
OGE Energy Corp. (OGE)	-12.3%	5.2%	3.5%	4.3%
WEC Energy Group (WEC)	5.9%	8.0%	6.0%	6.6%
<b>Average - Electric</b>	<b>6.5%</b>	<b>6.7%</b>	<b>5.3%</b>	<b>6.0%</b>

<b>Average - Gas &amp; Electric</b>	<b>6.2%</b>	<b>6.3%</b>	<b>5.7%</b>	<b>5.9%</b>
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Sources: *Value Line*; <http://finance.yahoo.com>; [www.zacks.com](http://www.zacks.com); October 2024. See links below.

Yahoo Finance - <https://finance.yahoo.com/quote/SO/analysis?p=SO>

Zacks - <https://www.zacks.com/stock/quote/bkh/detailed-earning-estimates>

**CAPM Cost of Equity Summary -- Gas Group**

CAPM Formula:  $K = R_f + b(R_m - R_f)$

<b>Risk Free Rate (<math>R_f</math>)</b>	<b>4.30%</b>	Page 2
<b>Beta (<math>\beta</math>) - Value Line</b>	<b>0.89</b>	Page 3
<b>Equity Risk Premium (<math>R_m - R_f</math>) *</b>	<b>5.0%</b>	Page 4
<b>Equity Cost Rate</b>	<b>8.8%</b>	

\* Source: Attachment LDC-7, page 1.

**CAPM Cost of Equity Summary - Electric Group**

CAPM Formula:  $K = R_f + b(R_m - R_f)$

<b>Risk Free Rate (<math>R_f</math>)</b>	<b>4.30%</b>	Page 2
<b>Beta (<math>\beta</math>) - Value Line</b>	<b>0.91</b>	Page 3
<b>Equity Risk Premium (<math>R_m - R_f</math>) *</b>	<b>5.0%</b>	Page 4
<b>Equity Cost Rate</b>	<b>8.8%</b>	

**Yields on U.S. Treasury Bonds**

<b>Date</b>	<b>10 Yr</b>	<b>20 Yr</b>	<b>30 Yr</b>
9/19/2024	3.73	4.11	4.06
9/20/2024	3.73	4.1	4.07
9/23/2024	3.75	4.12	4.09
9/24/2024	3.74	4.13	4.09
9/25/2024	3.79	4.18	4.14
9/26/2024	3.79	4.17	4.12
9/27/2024	3.75	4.15	4.10
9/30/2024	3.81	4.19	4.14
10/1/2024	3.74	4.14	4.08
10/2/2024	3.79	4.19	4.14
10/3/2024	3.85	4.24	4.18
10/4/2024	3.98	4.33	4.26
10/7/2024	4.03	4.37	4.30
10/8/2024	4.04	4.38	4.32
10/9/2024	4.06	4.41	4.34
10/10/2024	4.09	4.44	4.38
10/11/2024	4.08	4.44	4.39
10/15/2024	4.03	4.37	4.32
10/16/2024	4.02	4.36	4.30
10/17/2024	4.09	4.44	4.39
10/18/2024	4.08	4.44	4.38
10/21/2024	4.19	4.54	4.49
10/22/2024	4.2	4.55	4.49
10/23/2024	4.24	4.58	4.51
10/24/2024	4.21	4.54	4.47
10/25/2024	4.25	4.58	4.51
10/28/2024	4.28	4.61	4.53
10/29/2024	4.28	4.61	4.52
10/30/2024	4.29	4.60	4.49
10/31/2024	4.28	4.58	4.47
<b>Average</b>	4.01	4.36	4.30
<b>Average for 10-year, 20-year, and 30-year bonds</b>			4.22

[https://home.treasury.gov/resource-center/data-chart-center/interest-rates/TextView?type=daily\\_treasury\\_yield\\_curve&field\\_tdr\\_date\\_value=2024](https://home.treasury.gov/resource-center/data-chart-center/interest-rates/TextView?type=daily_treasury_yield_curve&field_tdr_date_value=2024)

**Beta for Gas Group**

<b>Company Name</b>	<b>Value Line Betas*</b>
Atmos Energy Corp. (ATO)	0.85
New Jersey Resources Corp. (NJR)	1.00
NiSource Inc. (NI)	0.95
Northwest Natural Gas Co. (NWN)	0.85
ONE Gas Inc. (OGS)	0.85
Spire, Inc. (SR)	0.85
<b>Average</b>	<b>0.89</b>

\* See Attachment LDC-1, pp. 1-6.

**Beta for Electric Group**

<b>Company Name</b>	<b>Value Line Betas*</b>
Alliant Energy Corp. (LNT)	0.90
Ameren Corp. (AEE)	0.90
American Electric Power (AEP)	0.85
CMS Energy Corp. (CMS)	0.85
Entergy Corp. (ETR)	1.00
Evergy Inc. (EVRG)	0.95
MGE Energy, Inc. (MGEE)	0.80
OGC Energy Corp. (OGE)	1.06
WEC Energy Group (WEC)	0.85
<b>Average</b>	<b>0.91</b>

\* See Attachment LDC-1, pp. 7-15.

*Value Line:* 9/6/2024.

Kroll	5.0%
Damodaran	4.6%
IESE Survey	5.5%
Average	5.03%



# The Long-Term Budget Outlook: 2024 to 2054



MARCH | 2024



# Projections at a Glance

## The Federal Budget

**The deficit** increases significantly in relation to gross domestic product (GDP) over the next 30 years, reaching 8.5 percent of GDP in 2054. That growth results from rising interest costs and large and sustained primary deficits, which exclude net outlays for interest. Primary deficits are especially large given the forecast of low unemployment rates; those deficits average 0.6 percentage points of GDP more over the next 30 years than they did over the past 50 years.

**Debt held by the public**, boosted by the large deficits, reaches its highest level ever in 2029 (measured as a percentage of GDP) and then continues to grow, reaching 166 percent of GDP in 2054 and remaining on track to increase thereafter. That mounting debt would slow economic growth, push up interest payments to foreign holders of U.S. debt, and pose significant risks to the fiscal and economic outlook; it could also cause lawmakers to feel more constrained in their policy choices.

**Outlays** are large by historical standards, and they generally rise over the 2024–2054 period, reaching 27.3 percent of GDP in 2054. Rising interest costs and spending for the major health care programs, particularly Medicare, drive that growth.

**Revenues**, measured as a percentage of GDP, fluctuate over the next decade and rise thereafter, reaching 18.8 percent of GDP in 2054, as growth in income boosts receipts from the individual income tax.

## The U.S. Economy

**Population growth**, which has a significant effect on the economy, is slower over the next 30 years than it was over the past 30 years. Without immigration, the population would begin to shrink in 2040.

**Economic growth** is also slower over the next three decades than it was over the previous three decades. The decline in output growth is the result of slower growth of the labor force and slower accumulation of capital resulting from increased federal borrowing.

**Inflation** slows through 2026 to a rate that is consistent with the Federal Reserve’s long-term goal of 2 percent and then remains at rates that are consistent with that goal from 2026 to 2054.

**Interest rates** generally rise over the next three decades, largely as a result of projected increases in federal borrowing and in capital income as a share of total income.

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CBO’s baseline budget and economic projections reflect the assumption that current laws governing taxes and spending will generally remain unchanged. The agency’s long-term budget projections follow its 10-year baseline budget projections and extend most of their underlying concepts for an additional 20 years.

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## Changes in CBO’s Budget Projections Since June 2023

Measured as a percentage of GDP, the deficit is now projected to be 1.6 percentage points smaller in 2053 than it was in last year’s report, and federal debt is now projected to be 17 percentage points smaller.

A key factor contributing to smaller projected deficits is a reduction in discretionary spending stemming from the annual funding limits under the Fiscal Responsibility Act of 2023 and from the Further Continuing Appropriations and Other Extensions Act, 2024.

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## Changes in CBO’s Economic Projections Since June 2023

On average, the economy is now expected to grow more rapidly over the next 30 years than the agency projected in June 2023. That increase stems from stronger growth of the potential labor force over the next 10 years, largely driven by increased net immigration, and faster capital accumulation over the next 30 years.



# By the Numbers

## The Long-Term Budget Outlook, by Fiscal Year

Percentage of GDP						
	Average, 1994–2023	Actual, 2023	2024	2034	2044	2054
<b>Revenues</b>	<b>17.2</b>	<b>16.5</b>	<b>17.5</b>	<b>17.9</b>	<b>18.4</b>	<b>18.8</b>
Individual income taxes	8.0	8.1	8.8	9.5	9.9	10.3
Payroll taxes	6.1	6.0	5.9	5.9	5.9	5.8
Corporate income taxes	1.7	1.6	2.0	1.3	1.4	1.4
Other	1.4	0.8	0.8	1.2	1.2	1.3
<b>Outlays</b>	<b>21.0</b>	<b>22.7</b>	<b>23.1</b>	<b>24.1</b>	<b>25.7</b>	<b>27.3</b>
Mandatory	12.1	13.9	13.9	15.1	15.8	16.2
Social Security	4.5	5.0	5.2	5.9	5.8	5.9
Major health care programs	4.3	5.8	5.6	6.7	7.8	8.3
Medicare	2.6	3.1	3.2	4.2	5.1	5.4
Medicaid, CHIP, and premium tax credits and related spending	1.7	2.7	2.4	2.5	2.7	2.8
Other mandatory	3.3	3.1	3.1	2.5	2.3	2.0
Discretionary	7.0	6.4	6.2	5.1	4.9	4.9
Net interest	1.8	2.4	3.1	3.9	5.0	6.3
<b>Total deficit (-)</b>	<b>-3.8</b>	<b>-6.2</b>	<b>-5.6</b>	<b>-6.1</b>	<b>-7.3</b>	<b>-8.5</b>
Primary deficit (-)	-2.0	-3.8	-2.5	-2.2	-2.4	-2.2
Debt held by the public at the end of each period	58	97	99	116	139	166

See [Chapter 1](#) and [Chapter 2](#). Deficits and outlays have been adjusted to exclude the effects of shifts in the timing of certain payments when October 1, the first day of the fiscal year, falls on a weekend.

## The Long-Term Economic Outlook, by Calendar Year

Percent						
	Average, 1994–2023	Actual, 2023	2024	2034	2044	2054
Growth of real (inflation-adjusted) GDP	2.5	2.5	1.8	1.8	1.6	1.6
<b>Inflation</b>						
Growth of the PCE price index	2.1	3.7	2.2	1.9	1.9	1.9
Growth of the consumer price index for all urban consumers	2.5	4.1	2.6	2.3	2.2	2.2
Labor force participation rate	64.8	62.6	62.6	61.4	60.9	60.7
Unemployment rate	5.6	3.6	4.2	4.5	4.2	4.1
<b>Interest rates</b>						
On 10-year Treasury notes	3.8	4.0	4.6	4.1	4.2	4.4
On all federal debt held by the public (by fiscal year)	3.7	2.5	3.1	3.4	3.6	3.8

See [Chapter 3](#) and [Appendix C](#).

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# Notes About This Report

The Congressional Budget Office's long-term budget projections, referred to as the extended baseline, follow the agency's 10-year baseline budget projections and then extend most of the concepts underlying those projections for an additional 20 years.

The long-term budget projections in this report are based on CBO's February 2024 baseline budget and economic projections and the agency's January 2024 demographic projections. The budget projections incorporate the effects of legislation enacted as of January 3, 2024. The economic projections reflect economic developments and information as of December 5, 2023. The demographic projections reflect developments through November 21, 2023.

In accordance with statutory requirements, CBO's projections reflect the assumptions that current laws generally remain unchanged, that some mandatory programs are extended after their authorizations lapse, and that spending on Medicare and Social Security continues as scheduled even if their trust funds are exhausted.

Unless this report indicates otherwise, all years referred to in describing budget projections are federal fiscal years, which run from October 1 to September 30 and are designated by the calendar year in which they end. Years referred to in describing economic projections are calendar years.

When October 1 (the first day of the fiscal year) falls on a weekend, certain payments that ordinarily would have been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year. In this report, budget projections have been adjusted to treat the payments as if they were not subject to the shifts.

Unless this report notes otherwise, Medicare outlays are presented net of premiums paid by beneficiaries and other offsetting receipts, which reduce outlays for the program.

Numbers in the text, tables, and figures may not add up to totals because of rounding.

Supplemental information files—the data underlying the tables and figures in this report, supplemental budget projections, and the economic variables underlying those projections—are posted on CBO's website at [www.cbo.gov/publication/59711#data](http://www.cbo.gov/publication/59711#data). Previous editions of this report are available at <http://tinyurl.com/2t6r8nn2>.

CBO has corrected this report since its original publication. Corrections are listed at the end of the report.

# Executive Summary

Each year, the Congressional Budget Office publishes a report presenting its projections of what the federal budget and the economy would look like over the next 30 years if current laws generally remained unchanged. This report is the latest in that series.

## The Long-Term Budget Outlook

### Deficits

In CBO's projections, the total federal budget deficit increases significantly in relation to gross domestic product (GDP) over the next 30 years, reaching 8.5 percent of GDP in 2054. Since the Great Depression, that level has been exceeded only during and shortly after World War II and during the 2007–2009 financial crisis and the coronavirus pandemic. That growth results from rising interest costs and large and sustained primary deficits, which exclude net outlays for interest. Those deficits average 2.2 percent of GDP over the 30-year period; over the past 50 years, they averaged 1.6 percent of GDP. Projected primary deficits are especially large given the forecast of low unemployment rates.

### Debt

Federal debt held by the public, measured as a percentage of GDP, increases in every year of the 2024–2054 period. By 2029, that debt climbs to 107 percent of GDP, exceeding the historical peak it reached immediately after World War II. In 2054, it reaches 166 percent of GDP and remains on track to increase thereafter. Such large and growing debt would slow economic growth, push up interest payments to foreign holders of U.S. debt, and pose significant risks to the fiscal and economic outlook; it could also cause lawmakers to feel more constrained in their policy choices.

### Outlays and Revenues

Measured as a percentage of GDP, federal outlays are large by historical standards and, beginning in 2028, increase in each year, reaching 27.3 percent of GDP in 2054. Growth in net interest costs and in spending for federal health care programs, particularly Medicare, drives those increases. Revenues, also measured as a percentage of GDP, fluctuate over the next decade and increase thereafter, reaching 18.8 percent of GDP in 2054. That later growth in revenues occurs mainly because growth in income boosts receipts from the individual income tax.

### Changes in CBO's Budget Projections

Measured as a percentage of GDP, federal debt in 2053 is now projected to be 17 percentage points smaller, and the total deficit in 2053 is now projected to be 1.6 percentage points smaller, than in last year's report. A key factor contributing to smaller projected deficits is a reduction in discretionary spending stemming from the annual funding limits under the Fiscal Responsibility Act of 2023 and from the Further Continuing Appropriations and Other Extensions Act, 2024. Overall, CBO's projections of debt have generally increased through 2031 and decreased in later years.

Projections  
for **2054**

Budget deficit:  
**8.5%** of GDP

Debt held by  
the public:  
**166%** of GDP

Outlays:  
**27.3%** of GDP

Revenues:  
**18.8%** of GDP

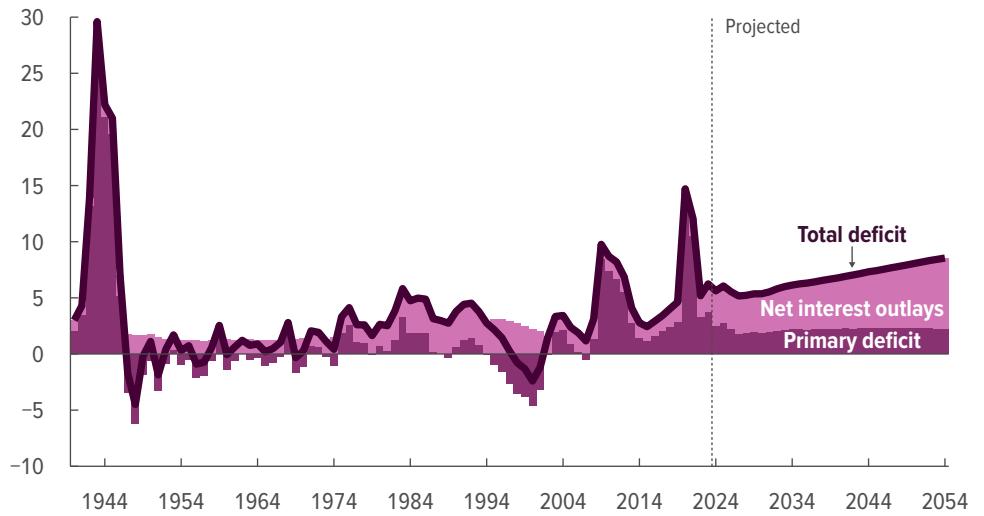
## The Budget Outlook in Five Figures

### Total Deficits, Primary Deficits, and Net Interest Outlays

In CBO's projections, large and sustained primary deficits (which exclude net interest costs) combine with rising interest rates and the growing debt to cause net outlays for interest to more than double in relation to GDP by 2054. Those factors push the total deficit up to 8.5 percent of GDP in that year.

See Figure 1-1 on page 10.

Percentage of GDP



### Outlook for 2024–2054

Deficits average **6.7%** of GDP over the 30-year period, which is **3.0** percentage points more than they averaged over the past 50 years.

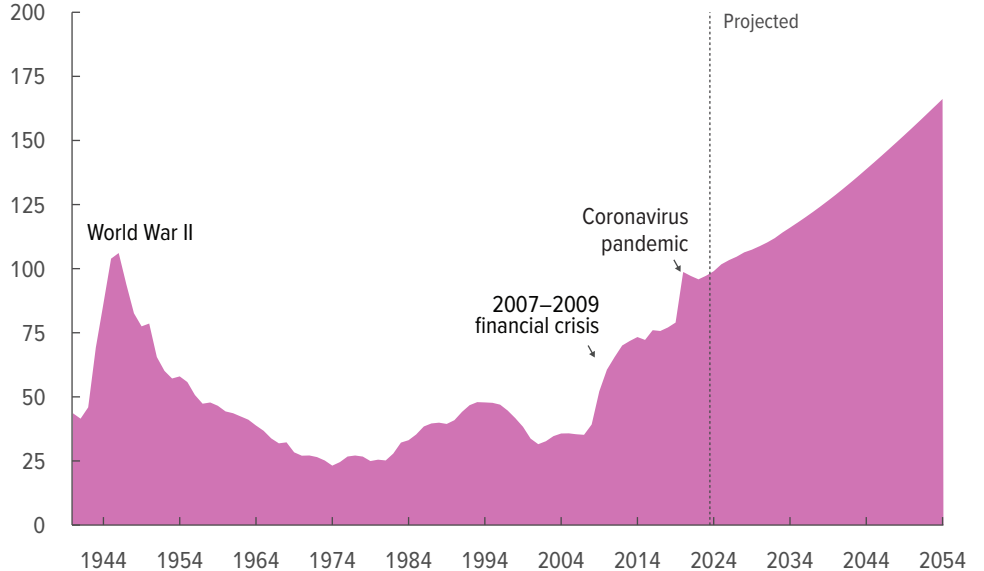
Debt held by the public reaches **107%** of GDP in 2029, exceeding the historical peak reached just after World War II, and its growth continues to accelerate through 2054.

### Federal Debt Held by the Public

Debt increases in relation to GDP, exceeding any previously recorded level in 2029 and continuing to soar through 2054. It is on track to increase even more thereafter.

See Figure 1-1 on page 10.

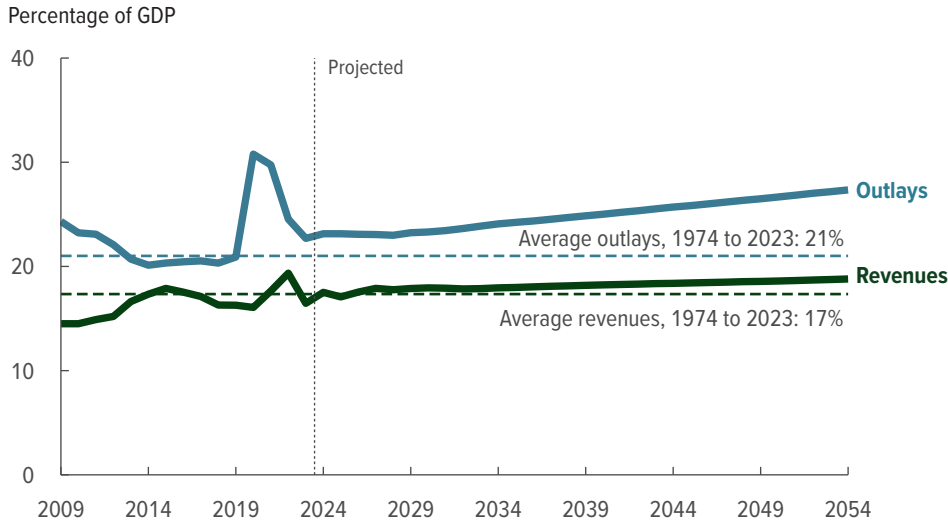
Percentage of GDP



### Total Outlays and Revenues

From 2024 to 2054, federal spending is larger and rising faster, on average, than revenues are. Spending and revenues each represent a larger percentage of GDP over that period than they did, on average, over the past 50 years.

See Figure 2-1 on page 18.



## Outlook for 2024–2054

Net outlays for interest more than double, reaching **6.3%** of GDP in 2054.

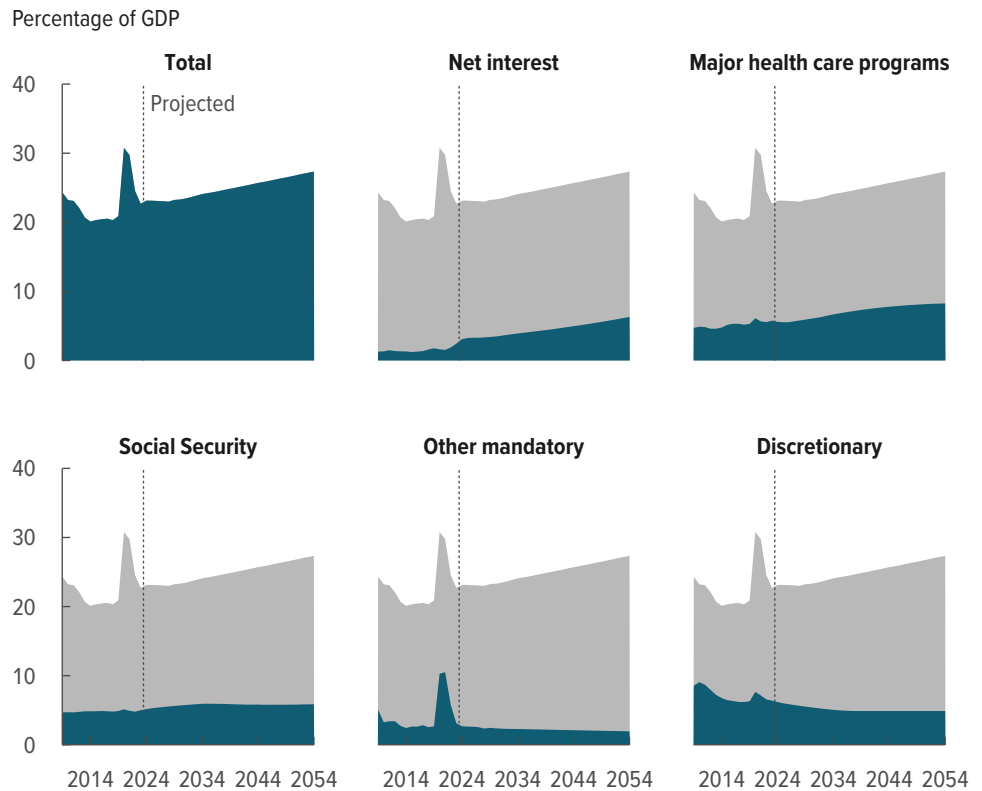
Outlays for the major health care programs climb to **8.3%** of GDP in 2054.

### Outlays, by Category

Increases in net interest costs and in spending for major health care programs largely drive the increase in spending over the 2024–2054 period. Driven by rising interest rates and mounting debt, net outlays for interest more than double, relative to GDP, during the period, reaching 6.3 percent of GDP in 2054.

As the population ages and health care costs grow, outlays for the major health care programs also rise over the next three decades, reaching 8.3 percent of GDP in 2054. In that year, for people age 65 or older, outlays for Social Security, Medicare, and Medicaid amount to more than 50 percent of all noninterest spending.

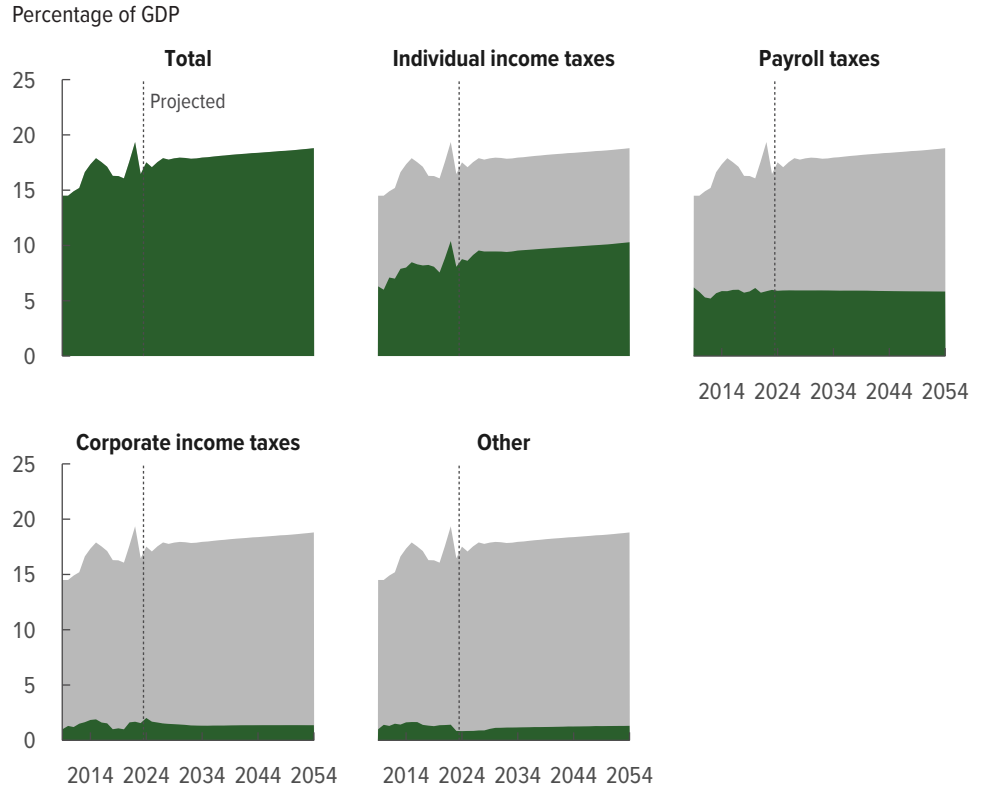
See Figure 2-2 on page 19.



### Revenues, by Source

Total revenues, measured as a percentage of GDP, grow by 1.3 percentage points from 2024 to 2054. Receipts from individual income taxes account for nearly all of that growth because increases in real income mean that a larger share of income becomes subject to higher tax rates. Receipts from other sources remain largely unchanged, on net.

See Figure 2-6 on page 26.



### The Long-Term Budget Outlook, by Fiscal Year

Percentage of GDP	Average, 1994–2023	Actual, 2023	2024	2034	2044	2054
<b>Revenues</b>	<b>17.2</b>	<b>16.5</b>	<b>17.5</b>	<b>17.9</b>	<b>18.4</b>	<b>18.8</b>
Individual income taxes	8.0	8.1	8.8	9.5	9.9	10.3
Payroll taxes	6.1	6.0	5.9	5.9	5.9	5.8
Corporate income taxes	1.7	1.6	2.0	1.3	1.4	1.4
Other	1.4	0.8	0.8	1.2	1.2	1.3
<b>Outlays</b>	<b>21.0</b>	<b>22.7</b>	<b>23.1</b>	<b>24.1</b>	<b>25.7</b>	<b>27.3</b>
Mandatory	12.1	13.9	13.9	15.1	15.8	16.2
Social Security	4.5	5.0	5.2	5.9	5.8	5.9
Major health care programs	4.3	5.8	5.6	6.7	7.8	8.3
Medicare	2.6	3.1	3.2	4.2	5.1	5.4
Medicaid, CHIP, and premium tax credits and related spending	1.7	2.7	2.4	2.5	2.7	2.8
Other mandatory	3.3	3.1	3.1	2.5	2.3	2.0
Discretionary	7.0	6.4	6.2	5.1	4.9	4.9
Net interest	1.8	2.4	3.1	3.9	5.0	6.3
<b>Total deficit (-)</b>	<b>-3.8</b>	<b>-6.2</b>	<b>-5.6</b>	<b>-6.1</b>	<b>-7.3</b>	<b>-8.5</b>
Primary deficit (-)	-2.0	-3.8	-2.5	-2.2	-2.4	-2.2
Debt held by the public at the end of each period	58	97	99	116	139	166

See Chapter 1 and Chapter 2. When October 1 (the first day of the fiscal year) falls on a weekend, certain payments that would have ordinarily been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year. Outlays and deficits have been adjusted to remove the effects of those timing shifts.





# The Long-Term Demographic and Economic Outlook

## Population Growth

Demographic trends are a key determinant of the long-term budget and economic outlook. In CBO's projections, the population grows more slowly over the next 30 years than it did over the past 30 years. Without immigration, the population would begin to shrink in 2040, in part because fertility rates remain below the rate that would be required for a generation to replace itself.

## Economic Growth

In CBO's projections, real (inflation-adjusted) GDP grows at an average rate of 1.7 percent per year from 2024 to 2054, slightly slower than the growth of real potential GDP—the maximum sustainable output of the economy—over that period. Real potential GDP is projected to increase at an average rate of 1.8 percent per year over the next 30 years, slower than such growth over the past 30 years, when it averaged 2.4 percent. That decline is attributable to slowing growth in the potential labor force (an estimate of what the size of the labor force would be if economic output and other key variables were at their maximum sustainable amounts) and in potential labor force productivity (the ratio of real potential GDP to the potential labor force) over the 2024–2054 period.

## Potential Labor Force

The potential labor force grows at an average rate of 0.4 percent over the next 30 years—much more slowly than the average growth rate of 0.8 percent over the past 30 years. Slowing population growth and the aging of the population account for most of that slowdown in growth.

## Potential Labor Force Productivity

The growth of potential labor force productivity slows over the next 30 years because of two key factors: the slower accumulation of capital (mainly attributable to increased federal borrowing) and slower growth in total factor productivity (that is, the average real output per unit of combined labor and capital services) in the nonfarm business sector.

## Inflation and Interest Rates

Inflation slows through 2026 to a rate that is consistent with the Federal Reserve's long-term goal of 2 percent, and interest rates rise over the next three decades. The rise in interest rates largely stems from projected increases in federal borrowing and in capital income as a share of total income.

## Changes in CBO's Economic Projections

In CBO's current projections, the average annual growth of real GDP is faster over the 2024–2053 period than it was in the long-term projections that the agency published in June 2023. In CBO's current projections, real potential GDP grows faster, the labor force is larger, and interest rates are generally higher than in last year's projections. Faster growth in real potential GDP is driven, in part, by faster growth in the potential labor force. The potential labor force grows faster over the next 10 years primarily because of significant upward revisions to the agency's projections of net immigration.

## Outlook for 2024– 2054

The growth of real (inflation-adjusted) GDP averaged **2.5%** per year over the past 30 years. Over the next 30 years, real GDP growth averages **1.7%** per year.

## The Demographic and Economic Outlook in Four Figures

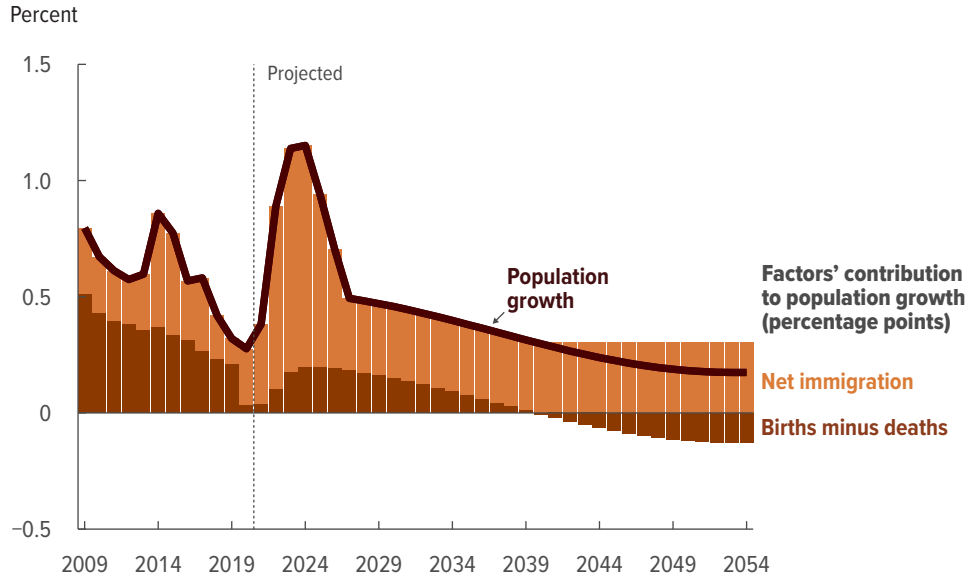
### Population Growth and the Factors That Contribute to It

In CBO’s projections, deaths exceed births beginning in 2040. As a result, without immigration the population would shrink thereafter.

See Figure 3-1 on page 32.

## Outlook for 2024–2054

Without immigration, the population would begin to shrink in 2040.

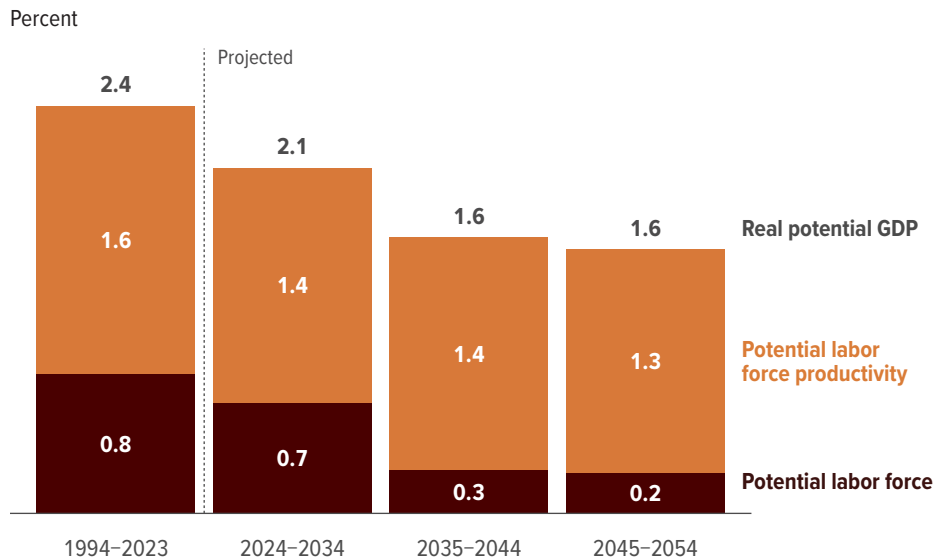


Growth in real potential GDP is slower over the next 30 years than over the past 30 years.

### Average Annual Growth of Real Potential GDP and Its Components

Real potential GDP grows more slowly from 2024 to 2054 than it has, on average, over the past 30 years. That decline is explained by slower growth in the potential labor force and in potential labor force productivity.

See Figure 3-3 on page 35.



# Chapter 3: Long-Term Demographic and Economic Projections

## Overview

Demographic and economic trends are key determinants of the long-term budget outlook. By the Congressional Budget Office's estimate, the population will grow more slowly over the next 30 years than it did over the past 30 years. In CBO's projections, the population would begin to shrink in 2040 without immigration, in part because fertility rates remain below the rate that would be required for a generation to replace itself. The average age of the population also increases (referred to as the aging of the population), largely because fertility rates remain low and mortality rates generally decline.

In the agency's long-term economic forecast, the nation's output grows more slowly over the next three decades than it did over the past three. That decline in output growth is the result of slower growth of the labor force and slower accumulation of capital stemming from increased federal borrowing. The labor force is projected to grow more slowly over the next three decades than it did over the past three, largely because of two factors: slower population growth, and a decline in the labor force participation rate attributable to the aging of the population.

In CBO's projections, inflation slows through 2026 to a rate that is consistent with the Federal Reserve's long-term goal of 2 percent. Over the 2024–2054 period, interest rates are higher than they were, on average, over the past 30 years. Those higher interest rates are largely the result of upward pressure from projected increases in federal borrowing and in capital income as a share of total income. CBO's economic projections account for the effects on the economy of projected deficits and of changes in taxes and spending scheduled under current law.

## Demographic Projections

The size and age profile of the U.S. population affects the nation's economy and the federal budget. For example, those two factors are the main determinants of the number of people in the labor force and thus affect both gross domestic

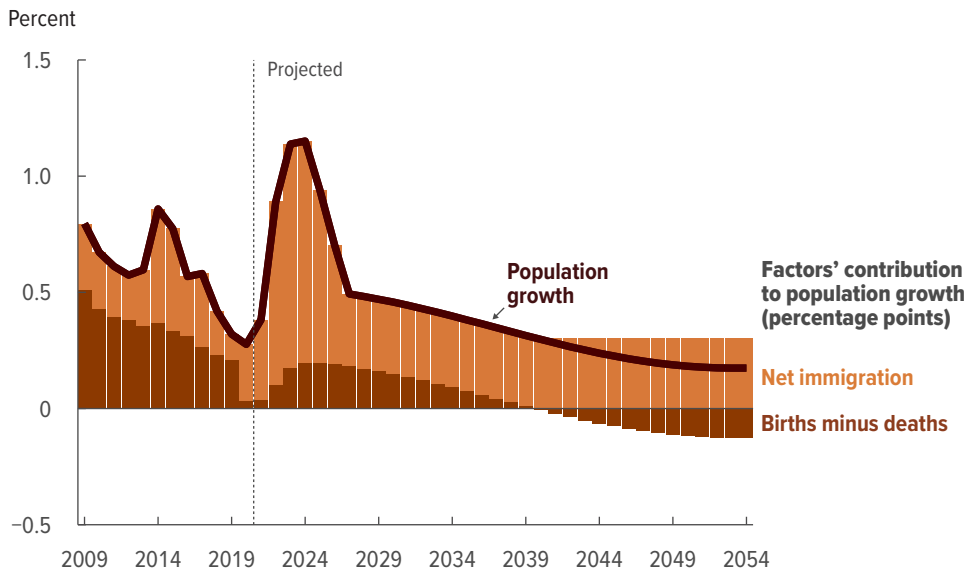
product (GDP) and federal tax receipts. Those factors also affect the number of beneficiaries of Social Security and other federal programs and thus federal outlays.

To estimate the population in future years, CBO projects rates of fertility, net immigration, and mortality. (Net immigration is the number of people who enter the United States minus the number who leave.) In the agency's projections, the population increases from 342 million people at the beginning of 2024 to 383 million at the beginning of 2054—an average expansion of 0.4 percent per year.<sup>1</sup> That rate is about half the average annual rate of growth over the past 30 years (0.8 percent).<sup>2</sup> Moreover, population growth is increasingly driven by immigration, in part because the total fertility rate remains below the rate necessary for a generation to replace itself.<sup>3</sup> Beginning in 2040, the population would shrink without immigration, as the number of deaths exceeds the number of births, in CBO's projections (see Figure 3-1).

1. To develop its demographic projections, CBO uses the Social Security area population, which is the relevant population for estimating Social Security payroll taxes and benefits. That population includes all residents of the 50 U.S. states and the District of Columbia, as well as civilian residents of U.S. territories. It also includes federal civilian employees and members of the U.S. armed forces living abroad and their dependents, U.S. citizens living abroad, and noncitizens living abroad who are eligible for Social Security benefits on the basis of their earnings while in the United States.
2. Although the population is projected to grow more slowly over the next 30 years, on average, than it did over the past 30 years, the population in CBO's current projections grows faster than in the agency's projections last year. For a discussion of the changes to CBO's population projections since January 2023, see Congressional Budget Office, *The Demographic Outlook: 2024 to 2054* (January 2024), p. 8, [www.cbo.gov/publication/59697](http://www.cbo.gov/publication/59697).
3. The total fertility rate represents the average number of children that a woman would have if, in each year of her life, she experienced the birth rates observed or assumed for that year and if she survived her entire childbearing period (which CBO estimates is from ages 14 to 49).

Figure 3-1.

## Population Growth and the Demographic Factors That Contribute to It



In CBO's projections, deaths exceed births beginning in 2040. As a result, without immigration the population would shrink thereafter.

Data source: Congressional Budget Office. See [www.cbo.gov/publication/59711#data](http://www.cbo.gov/publication/59711#data).

The population referred to in this figure is the Social Security area population, which includes all residents of the 50 U.S. states and the District of Columbia, as well as civilian residents of U.S. territories. It also includes federal civilian employees and members of the U.S. armed forces living abroad and their dependents, U.S. citizens living abroad, and noncitizens living abroad who are eligible for Social Security benefits on the basis of their earnings while in the United States.

The proportion of the population age 65 or older expands over the coming decades in the agency's projections, continuing a long-standing historical trend (see Figure 3-2). From 2014 to 2023, the percentage of the population age 65 or older increased from 14.2 percent to 17.5 percent, driven largely by the aging of members of the baby boom generation (comprising people born between 1946 and 1964), who started to turn 65 in 2011. That percentage continues to increase in the agency's projections, rising from 17.8 percent in 2024 to 20.5 percent in 2034 and 22.3 percent in 2054.

### Economic Projections

The state of the U.S. economy in coming decades will affect the federal government's budget deficits and debt. Key to CBO's long-term budget projections are its long-term projections of GDP, labor force participation, inflation, and interest rates. Among the factors incorporated in the agency's long-term economic forecast are the effects of projected deficits on private investment and the effects of marginal tax rates on the supply of labor and private saving.<sup>4</sup>

### Real Potential GDP

In CBO's extended baseline projections, the growth of real potential GDP slows, falling from an annual average rate of 2.1 percent over the 2024–2034 period to an average of 1.6 percent over the 2045–2054 period. (Real potential GDP is an estimate of the amount of real GDP that can be produced if labor and capital are employed at their maximum sustainable rates. Real GDP is nominal GDP adjusted to remove the effects of changes in prices.) Over the entire 2024–2054 period, real potential GDP increases at an average rate of 1.8 percent per year (see Table 3-1).

That projection represents a slowdown in the annual growth of real potential GDP compared with such growth from 1994 to 2023, when it averaged an estimated 2.4 percent. That slowdown is attributable to slowing growth in the potential labor force (an estimate of what the size of the labor force would be if economic output and other key variables were at their maximum sustainable amounts) and in potential labor force productivity (the ratio of real potential GDP to the potential labor force) over the period (see Figure 3-3 on page 35).

4. The economic projections underlying this analysis are extended versions of the 10-year economic projections described in Congressional Budget Office, *The Budget and Economic Outlook: 2024 to 2034* (February 2024), [www.cbo.gov/publication/59710](http://www.cbo.gov/publication/59710). For a discussion of changes to CBO's economic projections since

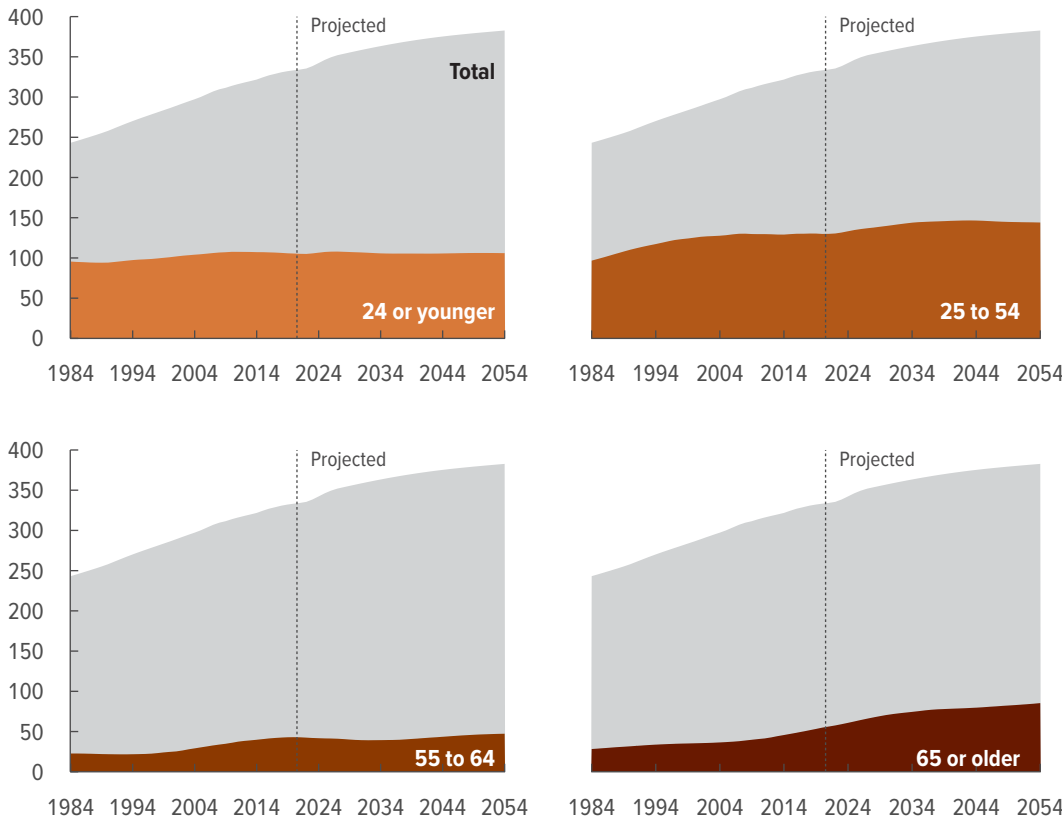
June 2023, when the agency last published its extended baseline projections, see Appendix B. For a discussion of projections of additional economic factors, see Appendix C.



Figure 3-2.

### Population, by Age Group

Millions of people



The number of people ages 25 to 54, which particularly affects the number of people employed, is projected to grow more slowly than the number of people age 65 or older, who are less likely to work and who are generally eligible for Social Security and Medicare.

Data source: Congressional Budget Office. See [www.cbo.gov/publication/59711#data](http://www.cbo.gov/publication/59711#data).

The population referred to in this figure is the Social Security area population, which includes all residents of the 50 U.S. states and the District of Columbia, as well as civilian residents of U.S. territories. It also includes federal civilian employees and members of the U.S. armed forces living abroad and their dependents, U.S. citizens living abroad, and noncitizens living abroad who are eligible for Social Security benefits on the basis of their earnings while in the United States.

**Potential Labor Force.** In CBO’s projections, the expansion of the potential labor force slows, averaging 0.7 percent from 2024 to 2034 and 0.2 percent from 2045 to 2054. Much of the growth in the labor force over the coming decade—especially in 2025 and 2026—is due to increased net immigration. Over the next three decades, the potential labor force grows by an average of 0.4 percent per year. That growth is much slower than it was over the past 30 years, when the potential labor force grew by an average of 0.8 percent per year. Slowing population growth and the aging of the population account for most of that slowdown.

**Potential Labor Force Productivity.** Like the growth of the potential labor force, the growth of potential labor force productivity is projected to slow over the next three decades. In CBO’s projections, potential labor force

productivity grows by an average of 1.4 percent per year from 2024 to 2034 and by an average of 1.3 percent per year from 2045 to 2054. Over the entire 30-year projection period, potential labor force productivity grows at an average annual rate of 1.4 percent—slower than the 1.6 percent annual growth rate it averaged over the past 30 years.

Two key factors drive the slower growth in potential labor force productivity. First, measured per worker, the accumulation of capital—structures and equipment, intellectual property products (such as computer software), and residential housing, for example—is projected to be slower over the next three decades than in the past, in part because increased federal borrowing is projected to reduce private investment. (For details about the effects of federal borrowing on private investment, see

Table 3-1.

**Average Annual Values for Key Economic Variables That Underlie CBO’s Extended Baseline Projections**

Percent

	1994–2023	2024–2034	2035–2044	2045–2054	Overall, 2024–2054
Growth of GDP					
Real potential GDP <sup>a</sup>	2.4	2.1	1.6	1.6	1.8
Potential labor force <sup>b</sup>	0.8	0.7	0.3	0.2	0.4
Potential labor force productivity <sup>c</sup>	1.6	1.4	1.4	1.3	1.4
Real GDP	2.5	2.0	1.6	1.6	1.7
Real GDP per person	1.6	1.4	1.3	1.3	1.3
Nominal GDP (fiscal year)	4.7	4.0	3.7	3.6	3.8
Labor force participation rate <sup>d</sup>	64.8	62.0	61.1	60.8	61.3
Labor force growth	0.9	0.6	0.3	0.2	0.4
Inflation					
Growth of the PCE price index	2.1	2.0	1.9	1.9	1.9
Growth of the CPI-U	2.5	2.3	2.2	2.2	2.3
Growth of the GDP price index	2.2	2.0	2.0	2.0	2.0
Interest rates					
On 10-year Treasury notes					
Nominal rate	3.8	4.1	4.2	4.3	4.2
Real rate	1.3	1.8	1.9	2.1	1.9
On all federal debt held by the public <sup>e</sup>	3.7	3.2	3.5	3.7	3.5

Data sources: Congressional Budget Office; Bureau of Economic Analysis; Bureau of Labor Statistics; Federal Reserve. See [www.cbo.gov/publication/59711#data](http://www.cbo.gov/publication/59711#data).

Real values are nominal values that have been adjusted to remove the effects of changes in prices.

The labor force consists of people age 16 or older in the civilian noninstitutionalized population who have jobs or who are unemployed (available for work and either seeking work or expecting to be recalled from a temporary layoff). The civilian noninstitutionalized population excludes members of the armed forces on active duty and people in penal or mental institutions or in homes for the elderly or infirm.

CPI-U = consumer price index for all urban consumers; GDP = gross domestic product; PCE = personal consumption expenditures.

- a. An estimate of the amount of real GDP that can be produced if labor and capital are employed at their maximum sustainable rates.
- b. An estimate of what the size of the labor force would be if economic output and other key variables were at their maximum sustainable amounts.
- c. The ratio of real potential GDP to the potential labor force. The sum of growth in the potential labor force and growth in potential labor force productivity is equal to growth in real potential GDP.
- d. The percentage of the civilian noninstitutionalized population age 16 or older that is in the labor force.
- e. The interest rate on all federal debt held by the public equals net interest payments in the current fiscal year divided by debt held by the public at the end of the previous fiscal year.

Chapter 1; and see the subsequent discussion in this chapter's section about the effects of fiscal policy on CBO's economic projections.)

Second, total factor productivity (TFP) in the nonfarm business sector is also expected to increase more slowly over the next three decades than it did over the past three. (TFP is the average real output per unit of combined labor and capital services.) Whereas TFP grew by an average of 1.2 percent per year from 1994 to 2023, CBO projects that it will grow at an average rate of 1.1 percent

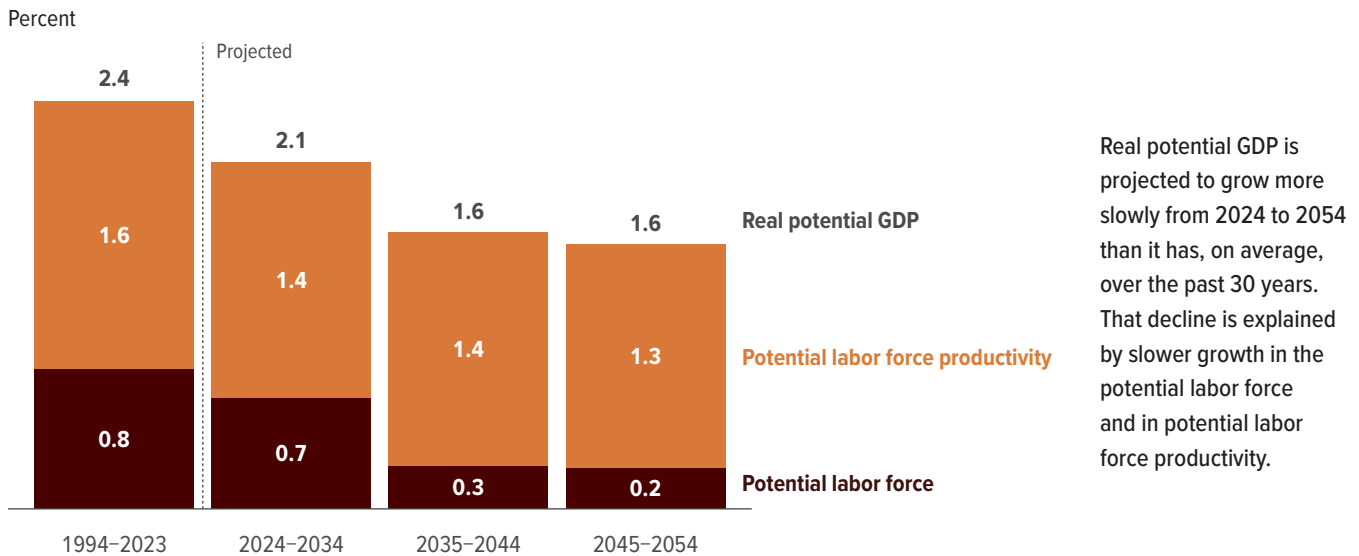
over the next 30 years. That slower growth in TFP is attributable to several factors, including a slowdown in the increase in workers' educational attainment, declining federal investment measured in relation to the size of the economy, and the effects of climate change on factors that affect production (see Appendix C for details).<sup>5</sup>

5. For more information about the effects of climate change on the economy, see Evan Herrnstadt and Terry Dinan, *CBO's Projection of the Effect of Climate Change on U.S. Economic Output*, Working Paper 2020-06 (Congressional Budget Office, September 2020), [www.cbo.gov/publication/56505](http://www.cbo.gov/publication/56505).



Figure 3-3.

### Average Annual Growth of Real Potential GDP and Its Components



Real potential GDP is projected to grow more slowly from 2024 to 2054 than it has, on average, over the past 30 years. That decline is explained by slower growth in the potential labor force and in potential labor force productivity.

Data source: Congressional Budget Office. See [www.cbo.gov/publication/59711#data](http://www.cbo.gov/publication/59711#data).

Real values are nominal values that have been adjusted to remove the effects of changes in prices.

Real potential GDP is an estimate of the amount of real GDP that can be produced if labor and capital are employed at their maximum sustainable rates. Its growth is the sum of the growth of the potential labor force and of potential labor force productivity. The potential labor force is an estimate of what the size of the labor force would be if economic output and other key variables were at their maximum sustainable amounts. Potential labor force productivity is the ratio of real potential GDP to the potential labor force.

The bars show average annual growth rates over the specified periods.

GDP = gross domestic product.

#### Real GDP

In CBO’s projections, real GDP grows at an average rate of 1.7 percent per year from 2024 to 2054—a little more slowly than real potential GDP grows over that period. The growth rates of real GDP and real potential GDP converge in 2026. At that point, the *level* of real GDP is about 0.5 percent below that of real potential GDP. That output gap remains through the end of the projection period, reflecting CBO’s assessment that during and after economic downturns, real GDP falls short of real potential GDP for longer, and by a larger amount, than it exceeds real potential GDP during economic expansions.<sup>6</sup>

6. One recent study explains the existence of an average negative output gap (where actual output is less than potential output) by examining asymmetric fluctuations in the unemployment rate. See Stéphane Dupraz, Emi Nakamura, and Jón Steinsson, “A Plucking Model of Business Cycles” (unpublished draft, July 2023), <https://tinyurl.com/yvcb2emu> (PDF). And see Congressional Budget Office, *Why CBO Projects That Actual Output Will Be Below Potential Output on Average* (February 2015), [www.cbo.gov/publication/49890](http://www.cbo.gov/publication/49890).

#### Real GDP per Person

Real GDP per person is expected to increase at an average annual rate of 1.3 percent over the 2024–2054 period—more slowly than the average annual growth rate of 1.6 percent experienced over the past 30 years.<sup>7</sup> In the agency’s projections, the average annual growth of real GDP per person falls from 1.4 percent in the first decade of the projection period to 1.3 percent in the second and third decades, as growth in real GDP slows more than growth in the population does.

#### Nominal GDP

In CBO’s projections, nominal GDP grows by 3.9 percent in 2024. Growth in nominal GDP climbs to 4.2 percent by 2026, as high rates of net immigration in preceding years boost economic activity. The agency

7. To develop its projections of real GDP per person, CBO uses the “resident population plus armed forces overseas,” a measure of population that includes U.S. residents and members of the armed forces on active duty stationed outside the United States but excludes military dependents, and other U.S. citizens, living abroad.

expects that beginning in 2027, net immigration will be consistent with its long-run historical average and GDP growth will moderate. Over the last two decades of the projection period, the growth rate of nominal GDP reflects the projected growth in real potential GDP and projected inflation as measured by the GDP price index. In 2054, nominal GDP grows by 3.6 percent.

### The Labor Force

CBO's projections of the labor force participation rate and the size of the labor force affect the agency's other economic projections.<sup>8</sup> For example, when the potential labor force grows faster, potential GDP increases faster than it otherwise would. As the labor force grows, the amount of investment increases to equip the new workers with capital, which causes private capital to accumulate more quickly than it otherwise would, further boosting the growth of potential GDP.

**Labor Force Participation Rate.** In CBO's projections, the labor force participation rate drops over the next three decades: It averages 62.0 percent over the 2024–2034 period, 61.1 percent over the 2035–2044 period, and 60.8 percent over the 2045–2054 period. That decline continues the downward trend that began in the mid-2000s—a trend that has been driven mostly by the aging of the population.

Although the aging of the population continues to be the main driver of the decline in labor force participation in CBO's projections, it is not the only factor affecting those projections. Some factors, such as increases in educational attainment and life expectancy, tend to increase labor force participation and thus partially offset the effects of the aging of the population. But other factors, along with that aging, push down the labor force participation rate in CBO's projections. For instance, in those projections, the marriage rate continues to fall, and unmarried men tend to participate in the labor force at lower rates than married men do. Also, under current law, many workers will face higher tax rates and thus earn lower after-tax wages than they would

have earned with current tax rates, which is expected to weaken their incentive to work. Those projected higher tax rates are the result of two factors: the expiration of certain provisions of the 2017 tax act at the end of 2025, which will raise tax rates on individual income, and real bracket creep—the process by which, as people's income rises faster than inflation, more of their income is pushed into higher tax brackets, raising their effective tax rates. In addition, increases in federal borrowing are projected to reduce private investment in capital, leading to lower wages (see the subsequent discussion in the section about the effects of fiscal policy on CBO's economic projections).

To assess the importance of the aging of the population in its projections of the labor force participation rate, CBO calculated what the rate would be if in each year of the projection period the age-and-sex composition of the population remained the same as it was in 2024. The agency then compared the outcomes in that hypothetical scenario with its projections.<sup>9</sup> In the hypothetical scenario, the labor force participation rate would *increase* from 62.7 percent in 2024 to 63.1 percent in 2054—2.8 percentage points higher than the labor force participation rate in that year in CBO's projections. In the scenario without the aging of the population, the labor force participation rate rises because educational attainment is projected to increase, on average, and people with higher levels of education generally participate in the labor force at a higher rate. Thus, CBO estimates that the aging of the population causes the labor force participation rate to drop by 2.8 percentage points over the 2024–2054 period—which is more than the overall decline in that rate (2.5 percentage points) during the period.

**Labor Force Growth.** The size of the labor force depends on the rates at which people in different demographic groups participate in the labor market and on the number of people in those groups. In CBO's projections, the number of people in those demographic groups is determined by the agency's projections of the population—which are significantly affected by net immigration. For example, in the agency's projections, net immigration increases the size of the overall population and, because immigrants are more likely to be of working age, results

8. The labor force consists of people age 16 or older in the civilian noninstitutionalized population who have jobs or who are unemployed (available for work and either seeking work or expecting to be recalled from a temporary layoff). The civilian noninstitutionalized population excludes members of the armed forces on active duty and people in penal or mental institutions or in homes for the elderly or infirm. The labor force participation rate is the percentage of the civilian noninstitutionalized population age 16 or older that is in the labor force.

9. Because the sex composition of the population is projected to change only slightly over the next three decades, the effect of the aging of the population accounts for nearly all of the difference between the labor force participation rate under the hypothetical scenario in which the age-and-sex composition of the population remains constant and the rate in CBO's projections.





in a larger share of people in age groups that have higher rates of labor force participation.

In CBO's projections, the labor force expands from 169 million people in 2024 to 188 million in 2054. That growth slows over the projection period, averaging 0.6 percent per year from 2024 to 2034 and 0.2 percent per year from 2045 to 2054. Those growth rates mark a significant slowdown from the pace of growth over the past 30 years: From 1994 to 2023, the labor force expanded at an average rate of 0.9 percent per year.

### Inflation

CBO projects several measures of inflation that affect interest rates and, consequently, interest payments on federal debt. Inflation also affects income, cost-of-living adjustments for certain benefits, and the indexation of income tax brackets, thereby influencing tax revenues and federal expenditures. The agency projects rates of inflation in the prices of consumer goods and services and in the prices of all goods and services that contribute to GDP.

#### Personal Consumption Expenditures Price Index.

One measure of change in consumer prices is the growth rate of the personal consumption expenditures (PCE) price index, which encompasses a broad range of goods and services. The Federal Reserve sets an explicit goal of 2 percent for the long-term average rate of inflation as measured by the PCE price index. In CBO's projections, the PCE price index grows at rates that are consistent with that goal from 2026 to 2054.

**Consumer Price Index.** A second measure of change in consumer prices is the consumer price index for all urban consumers (CPI-U). In CBO's projections, inflation in that index averages 2.3 percent per year over the 2024–2054 period. That average rate is consistent with the historical relationship between the CPI-U and PCE price index during the two decades before the coronavirus pandemic. In 2029, inflation in the CPI-U returns to a rate that is 0.3 percentage points higher than inflation in the PCE price index—a difference that is maintained for the rest of the projection period.<sup>10</sup>

10. Another measure of inflation is the chained consumer price index for all urban consumers (chained CPI-U). Many tax parameters are adjusted for changes in the chained CPI-U. Historically, inflation as measured by the chained CPI-U has been about 0.25 percentage points lower, on average, than inflation as measured by the CPI-U. CBO's projections reflect that average difference between the two measures. The chained CPI-U tends to grow more slowly than the traditional CPI-U does, for two reasons. First, it uses a formula that better accounts

**GDP Price Index.** Over the 2024–2054 period, inflation in the GDP price index is projected to average 2.0 percent annually. Like the projected rate of inflation in the CPI-U, that average rate is consistent with the historical relationship between the GDP and PCE price indexes over the past 30 years. In the long term, inflation in the GDP price index roughly equals that in the PCE price index.

### Interest Rates

CBO projects a set of interest rates that affect the budget, including interest rates on various debt instruments issued by the Treasury Department and on special-issue Social Security bonds.

In CBO's projections for the 2024–2054 period, interest rates on government securities are higher than they were, on average, over the past 30 years. The interest rate on 10-year Treasury notes increases slightly, rising from an average of 4.1 percent over the 2024–2034 period to an average of 4.3 percent over the 2045–2054 period (see Figure 3-4). Over the entire 2024–2054 period, the interest rate on 10-year Treasury notes averages 4.2 percent—about one-third of a percentage point higher than the 3.8 percent average recorded from 1994 to 2023. The real interest rate on 10-year Treasury notes (calculated by subtracting the percentage of increase in the consumer price index from the nominal yield on those notes) is projected to average 1.9 percent over the 2024–2054 period—0.6 percentage points higher than the average real interest rate on 10-year Treasury notes from 1994 to 2023. (That rate has averaged 0.1 percent since 2008.)

In CBO's assessment, structural factors—demographics, attitudes toward saving and investment, and the amount of federal debt, for example—largely determine interest rates in the long term. Because of changes in several of those factors, real interest rates in the United States have trended downward since the early 1980s.<sup>11</sup> The agency expects a few of those changes—including slower growth of the labor force, more private foreign and domestic savings available for investment, and slower growth of TFP—to continue to put downward pressure on interest

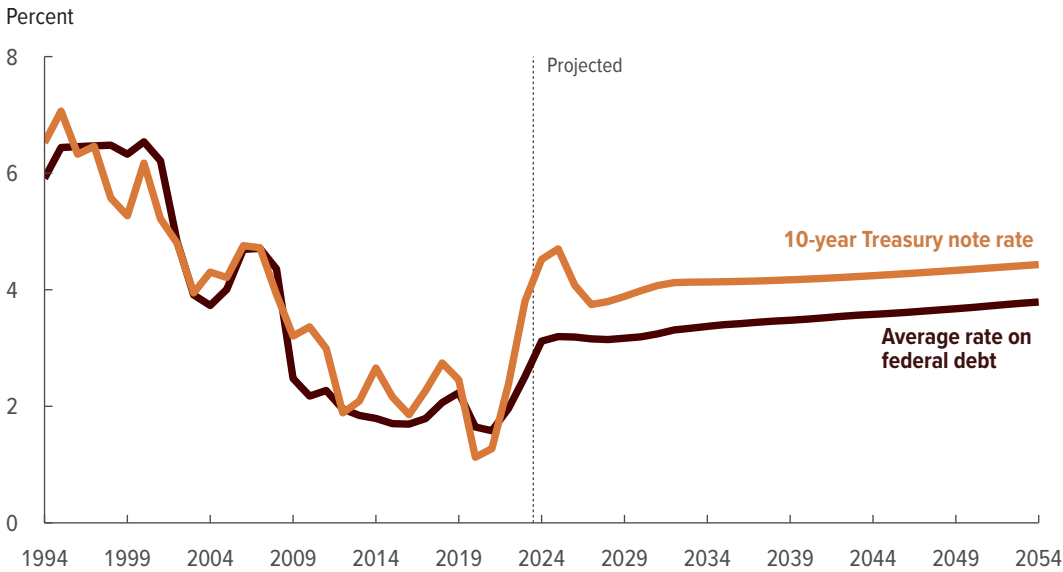
for households' tendency to substitute goods and services with similar but cheaper alternatives when prices go up. Second, unlike the CPI-U, the chained CPI-U is little affected by statistical bias related to the sample sizes that the Bureau of Labor Statistics uses in computing each index.

11. Edward N. Gamber, *The Historical Decline in Real Interest Rates and Its Implications for CBO's Projections*, Working Paper 2020-09 (Congressional Budget Office, December 2020), [www.cbo.gov/publication/56891](http://www.cbo.gov/publication/56891).



Figure 3-4.

### Average Interest Rates on Federal Debt and on 10-Year Treasury Notes



In CBO’s projections for the 2024–2054 period, interest rates on government securities, such as 10-year Treasury notes, are higher than they were, on average, over the past 30 years. The rise in interest rates mainly stems from an increasing amount of federal debt and the growth of capital income as a share of total income.

Data sources: Congressional Budget Office; Federal Reserve. See [www.cbo.gov/publication/59711#data](http://www.cbo.gov/publication/59711#data).

Data are for fiscal years. The average interest rate on all federal debt held by the public equals net interest payments in the current year divided by debt held by the public at the end of the previous year.

rates through 2054. Slower growth of the labor force and an increase in the total amount of savings available for investment tend to increase the amount of capital per worker in the long term, thereby reducing the return on capital and, thus, the return on government bonds and other investments.<sup>12</sup> Slower growth of productivity reduces the return on capital and results in lower interest rates, all else being equal.

That downward pressure is expected to be more than completely offset by upward pressure on interest rates from two other changes. First, in CBO’s projections for the 2024–2054 period, federal debt as a percentage of GDP is higher than it was, on average, over the past 30 years. When federal debt grows, interest rates tend to go up, raising the cost of borrowing and, in turn, lowering private investment. That reduction in private investment tends to reduce the amount of capital per worker and further increase interest rates and the return on capital over time. Second, capital income as a percentage of total income is expected to be higher than it was, on average, over the past

30 years. In CBO’s estimation, a larger share of income accruing to owners of capital would directly boost the return on capital and, thus, interest rates.

The average interest rate on all federal debt held by the public tends to be lower than the rate on 10-year Treasury notes. That is because the average term to maturity for federal debt has been less than 10 years since the 1950s and interest rates on shorter-term debt (which is less risky for investors than longer-term debt) are generally lower than those on longer-term debt. In CBO’s projections, the average interest rate on federal debt is 3.7 percent over the 2024–2054 period—0.6 percentage points lower than the interest rate on 10-year Treasury notes.

The two Social Security trust funds (the Old-Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund) hold special-issue bonds. In CBO’s projections, the interest rate on those bonds averages 2.4 percent from 2024 to 2034—the year that the Social Security trust funds are projected to be exhausted if their balances were combined. Because interest rates have been low for most of the past decade and are expected to rise, that projected average rate, which is for all bonds held by the Social Security trust funds, is lower

12. For more information about the relationship between the growth of the labor force and interest rates, see Congressional Budget Office, *How Slower Growth in the Labor Force Could Affect the Return on Capital* (October 2009), [www.cbo.gov/publication/41325](http://www.cbo.gov/publication/41325).



over the next decade than the projected average interest rate on newly issued bonds.<sup>13</sup>

### Effects of Fiscal Policy on CBO's Economic Projections

CBO's economic projections incorporate the effects of the federal deficits projected under current law. And because deficits grow, the federal government borrows more each year, in the agency's budget projections. That increase in federal borrowing reduces the amount of resources for private investment and pushes up interest rates, further reducing private investment in capital. As a result, output is less in the long term than it would be otherwise, especially in the last two decades of the projection period. Less private investment also reduces the amount of capital per worker, making workers less productive and leading to lower wages. Those lower wages reduce people's incentive to work and, consequently, lead to a smaller supply of labor.

The agency's economic projections also incorporate the effects of changes in federal tax policies scheduled under

current law, including the expiration of certain provisions of the 2017 tax act. Under current law, tax rates on individuals' income are scheduled to increase at the end of 2025, when those provisions are scheduled to expire. Those changes aside, as income rises faster than inflation, more income is pushed into higher tax brackets over time. That real bracket creep results in higher effective marginal tax rates on labor income and capital.<sup>14</sup> Higher marginal tax rates on labor income reduce people's after-tax wages and weaken their incentive to work. Likewise, an increase in the marginal tax rate on capital income lowers people's incentives to save and invest, thereby reducing the stock of capital and, in turn, labor productivity. In CBO's projections, that reduction in labor productivity puts downward pressure on wages. All told, less private investment and a smaller labor supply decrease economic output and income in CBO's extended baseline projections.

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13. In CBO's projections, the interest rate on newly issued bonds held in the two Social Security trust funds is equal to the rate on 10-year Treasury notes.

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14. The effective marginal tax rate is the percentage of an additional dollar of income from labor or capital that is paid in taxes. For more information about the effects of real bracket creep on CBO's long-term projections, see Congressional Budget Office, "How Income Growth Affects Tax Revenues in CBO's Long-Term Budget Projections" (June 2019), [www.cbo.gov/publication/55368](http://www.cbo.gov/publication/55368).

# Appendix B: Changes in CBO's Long-Term Economic Projections Since June 2023

## Overview

In the Congressional Budget Office's current extended baseline projections, the average annual growth of real gross domestic product (GDP) is faster than it was in the agency's long-term projections published last June.<sup>1</sup> (Real GDP is nominal GDP that has been adjusted to remove the effects of changes in prices.) In those current projections, real potential GDP grows faster, the labor force is larger, and interest rates are generally higher than in last year's projections. (Real potential GDP is an estimate of the amount of real GDP that can be produced if labor and capital are employed at their maximum sustainable rates.) The forecast of inflation is similar to last year's.

## Changes in GDP Projections

CBO is now projecting faster growth of *real potential GDP* than it did last June, particularly over the next 10 years. In the current projections, real potential GDP grows at an average annual rate of 2.1 percent over the 2024–2033 period, instead of the 1.8 percent in last year's projections. That increase reflects faster projected growth in the potential labor force that is largely attributable to significant upward revisions to the agency's projections of net immigration over the next decade, particularly through 2027.<sup>2</sup> Over the 2034–2053 period, real potential GDP growth averages 1.6 percent in this year's projections, up from the 1.5 percent projected last

year. That increase mainly stems from faster accumulation of capital in this year's economic forecast.

Like its projections of the growth of real potential GDP, CBO's projections of *real GDP* growth are higher than last year's over the 2034–2053 period (see Figure B-1). During that period, real GDP grows at the same rate as real potential GDP in CBO's forecast—up 0.1 percentage point, on average, from last year's projection. For the 2024–2033 period, the agency expects real GDP to grow at a rate similar to that projected last June.

CBO now expects average annual growth in *real GDP per person* to be slower over the next decade but slightly faster over the second and third decades of the projection period. Because of upward revisions to its estimates of net immigration, the agency now projects faster average population growth over the 2024–2033 period than it did last year. All else being equal, the increase in projected population growth lowers average growth in real GDP per person over that period, compared with last June's projections. Over the 2034–2053 period, however, real GDP per person grows by an average of 1.3 percent per year instead of the 1.2 percent in last year's projections. That change is the result of an increase in the agency's projection of real GDP growth.

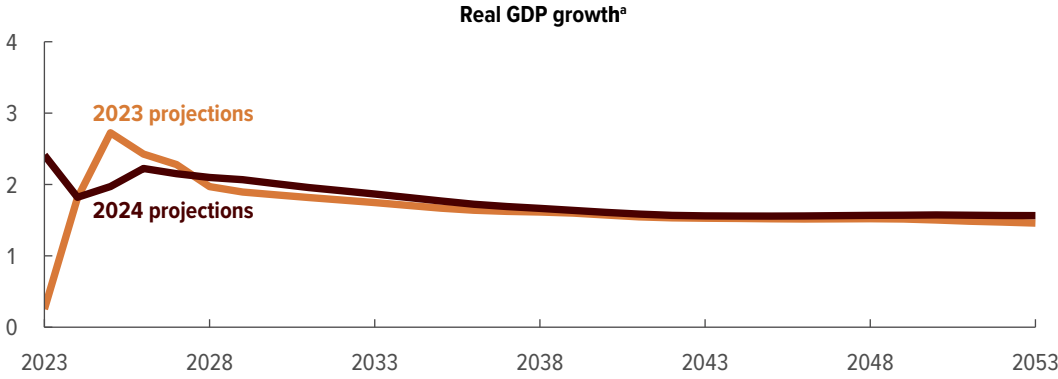
Average annual growth of *nominal GDP* is now projected to be slightly slower over the next decade but faster over the second and third decades of the projection period than CBO expected last June. Whereas in last year's projections, nominal GDP grew by an average of 4.1 percent per fiscal year from 2024 to 2033, it grows by an average of 4.0 percent over that period in the current projections. That difference is mostly attributable to downward revisions to the agency's projections of growth in the GDP price index over the next few years. (To project nominal GDP growth, CBO first projects real GDP growth and then adjusts those values by using its projections of growth in the GDP price index to incorporate the effects

1. Congressional Budget Office, *The 2023 Long-Term Budget Outlook* (June 2023), [www.cbo.gov/publication/59014](http://www.cbo.gov/publication/59014).
2. The potential labor force is an estimate of what the size of the labor force would be if economic output and other key variables were at their maximum sustainable amounts. The labor force consists of people age 16 or older in the civilian noninstitutionalized population who have jobs or who are unemployed (available for work and either seeking work or expecting to be recalled from a temporary layoff). The civilian noninstitutionalized population excludes members of the armed forces on active duty and people in penal or mental institutions or in homes for the elderly or infirm. Net immigration is the number of people who enter the United States minus the number who leave.

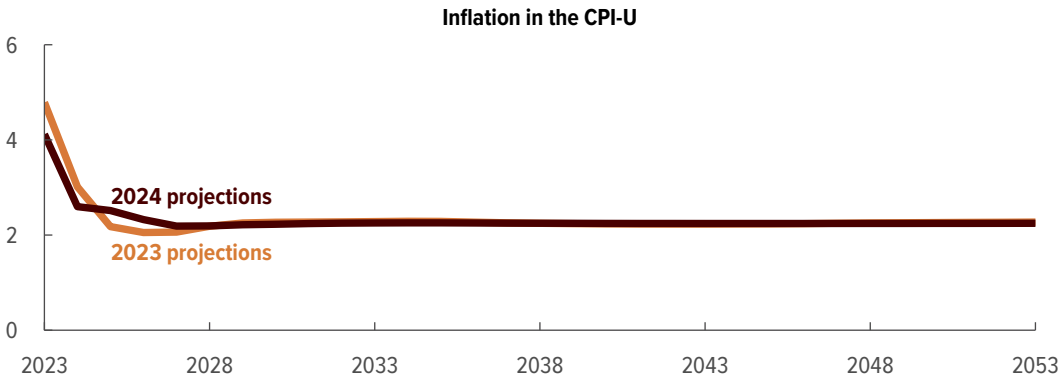
Figure B-1.

**CBO’s 2023 and 2024 Projections of Selected Economic Variables**

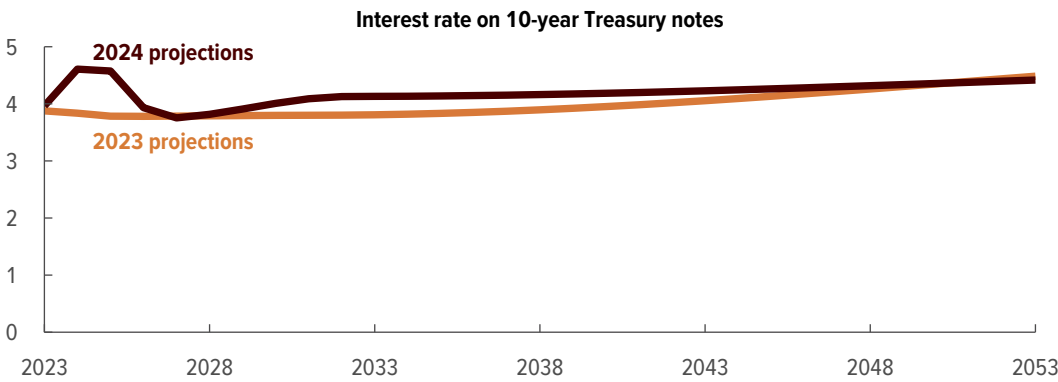
Percent



CBO’s long-term projections of real GDP growth—which affect its projections of revenues from income, payroll, and corporate taxes—are slightly higher over the last two decades of the projection period than they were last year.



The agency’s projections of inflation in the CPI-U—which affect its projections of spending on Social Security and other benefit programs with cost-of-living adjustments—are roughly the same as last year’s.



Projections of the average nominal interest rate on 10-year Treasury notes—a key factor in the agency’s projections of net interest costs—are now higher in most years of the projection period than they were last year.

Data source: Congressional Budget Office. See [www.cbo.gov/publication/59711#data](http://www.cbo.gov/publication/59711#data).

CPI-U = consumer price index for all urban consumers; GDP = gross domestic product.

a. Real GDP is nominal GDP that has been adjusted to remove the effects of changes in prices.

of inflation.) The agency now projects that from 2034 to 2053, nominal GDP will grow by an average of 3.7 percent instead of the 3.6 percent projected last year. That increase reflects the agency’s current expectation of faster growth of real GDP over that period.

**Changes in Labor Force Projections**

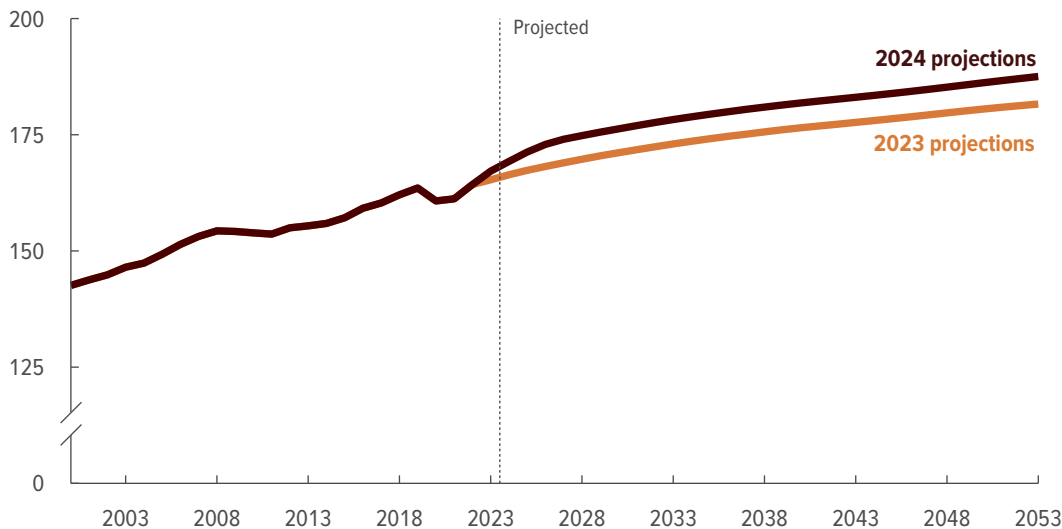
In CBO’s current projections, the labor force participation rate for the 2024–2033 period is higher, on average, than it was in last year’s projections. The agency now expects that the percentage of the population ages 25 to



Figure B-2.

**CBO's 2023 and 2024 Projections of the Labor Force**

Millions of people



In CBO's current projections, the labor force is about 3 percent larger in 2053 than it was in last year's projections. That change results from the agency's increased projections of population growth, which mainly stem from upward revisions to its estimates of net immigration.

Data source: Congressional Budget Office; Bureau of Labor Statistics. See [www.cbo.gov/publication/59711#data](http://www.cbo.gov/publication/59711#data).

The labor force consists of people age 16 or older in the civilian noninstitutionalized population who have jobs or who are unemployed (available for work and either seeking work or expecting to be recalled from a temporary layoff). The civilian noninstitutionalized population excludes members of the armed forces on active duty and people in penal or mental institutions or in homes for the elderly or infirm.

54 (the ages at which people are most likely to work) will be larger over that period because of increased net immigration.<sup>3</sup> By contrast, CBO's current projection of the labor force participation rate for the 2034–2053 period is slightly lower (by 0.2 percentage points), on average, than it was last year. That is because estimated labor force participation rates are now slightly lower for some subgroups of the population (as defined by age, sex, and level of education).

Although its projections of the labor force participation rate have changed only slightly since last year, CBO now expects that the population will be larger than previously projected. As a result, the labor force in the agency's current projections is about 3 percent larger in 2053 than it was in last year's projections (see Figure B-2).

**Changes in Inflation Projections**

Whether measured by growth in the consumer price index for all urban consumers (CPI-U), the personal

consumption expenditures (PCE) price index, or the GDP price index, CBO's projections of inflation after 2026 are similar to last year's projections. In 2025 and 2026, inflation in the CPI-U index is now expected to be slightly higher than the agency forecast last year.

**Changes in Interest Rate Projections**

The average nominal interest rates on 10-year Treasury notes and on newly issued bonds held in the two Social Security trust funds over the 2024–2053 period are generally higher in CBO's current projections than they were in the June 2023 projections—4.2 percent in the current projections instead of 4.0 percent in the previous projections—and the contour of those projections has changed.

The agency has increased its projections of interest rates over the next decade. The average interest rate on 10-year Treasury notes from 2024 to 2033 is now projected to be 4.1 percent, which is 0.3 percentage points higher than was projected last year. In response to stronger-than-anticipated economic growth in 2023, the Federal Reserve has raised the target range for the federal funds rate higher than previously projected. As a result, short-term interest rates are projected to be higher, on average, over the next few years than CBO expected last year. Likewise, long-term rates, which partly reflect the expected path

3. Congressional Budget Office, *The Demographic Outlook: 2024 to 2054* (January 2024), [www.cbo.gov/publication/59697](http://www.cbo.gov/publication/59697). The labor force participation rate is the percentage of people age 16 or older in the civilian noninstitutionalized population who have jobs or who are unemployed (available for work and either seeking work or expecting to be recalled from a temporary layoff).

of short-term rates, are higher over the next few years in CBO's current projections. Additionally, CBO revised upward its projections of interest rates over the second half of the next decade, mostly because the agency now expects capital income as a percentage of total income to be higher than previously projected.

CBO changed the contour of its projections of interest rates over the final two decades of the projection period, largely because of a change in how the agency projects interest rates in the period beyond the next few years. For its current projections, CBO reduced its estimate of the long-term sensitivity of the interest rate on 10-year Treasury notes to changes in federal debt. CBO now estimates that an increase of 1 percentage point in federal debt as a percentage of GDP will cause the interest rate on 10-year Treasury notes to rise by 2 basis points (0.02 percentage points) rather than by 2.5 basis points. That change reflects the agency's analysis of the statistical relationship between the 10-year Treasury rate and federal debt (accounting for a variety of other factors) and its review of the related research literature.

Because the projected rise in the amount of federal debt over the final two decades of the projection period is now expected to put less upward pressure on interest rates, the contour of CBO's current projections of interest rates is flatter than it would otherwise have been. The combined effect of the increase in projected interest rates over the next decade and the flatter contour of projected interest rates thereafter raises the average interest rate on 10-year Treasury notes over the 2035–2053 period from 4.1 percent in last year's projections to 4.3 percent in the current projections.

The real interest rate on 10-year Treasury notes is also generally higher in this year's projections—now averaging 1.9 percent over the 2024–2053 period instead of the 1.7 percent projected last year. The projected average nominal interest rate on all federal debt held by the public over the 2024–2053 period is higher, too—now 3.6 percent instead of the 3.4 percent projected last year.

Date	30 Yr
11/15/2024	4.60
11/14/2024	4.58
11/13/2024	4.63
11/12/2024	4.58
11/8/2024	4.47
11/7/2024	4.52
11/6/2024	4.60
11/5/2024	4.44
11/4/2024	4.50
11/1/2024	4.57
10/31/2024	4.47
10/30/2024	4.49
10/29/2024	4.52
10/28/2024	4.53
10/25/2024	4.51
10/24/2024	4.47
10/23/2024	4.51
10/22/2024	4.49
10/21/2024	4.49
10/18/2024	4.38
10/17/2024	4.39
10/16/2024	4.30
10/15/2024	4.32
10/11/2024	4.39
10/10/2024	4.38
10/9/2024	4.34
10/8/2024	4.32
10/7/2024	4.30
10/4/2024	4.26
10/3/2024	4.18
10/2/2024	4.14
10/1/2024	4.08
9/30/2024	4.14
9/27/2024	4.10
9/26/2024	4.12
9/25/2024	4.14
9/24/2024	4.09
9/23/2024	4.09
9/20/2024	4.07
9/19/2024	4.06
9/18/2024	4.03
9/17/2024	3.96
9/16/2024	3.94
9/13/2024	3.98

Maximum	4.82	4/25/2024
Minimum	3.94	9/16/2024



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# FEDERAL RESERVE press release



For release at 2:00 p.m. EST

November 7, 2024

Recent indicators suggest that economic activity has continued to expand at a solid pace. Since earlier in the year, labor market conditions have generally eased, and the unemployment rate has moved up but remains low. Inflation has made progress toward the Committee's 2 percent objective but remains somewhat elevated.

The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. The Committee judges that the risks to achieving its employment and inflation goals are roughly in balance. The economic outlook is uncertain, and the Committee is attentive to the risks to both sides of its dual mandate.

In support of its goals, the Committee decided to lower the target range for the federal funds rate by 1/4 percentage point to 4-1/2 to 4-3/4 percent. In considering additional adjustments to the target range for the federal funds rate, the Committee will carefully assess incoming data, the evolving outlook, and the balance of risks. The Committee will continue reducing its holdings of Treasury securities and agency debt and agency mortgage-backed securities. The Committee is strongly committed to supporting maximum employment and returning inflation to its 2 percent objective.

In assessing the appropriate stance of monetary policy, the Committee will continue to monitor the implications of incoming information for the economic outlook. The Committee would be prepared to adjust the stance of monetary policy as appropriate if risks emerge that could impede the attainment of the Committee's goals. The Committee's assessments will take

(more)

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into account a wide range of information, including readings on labor market conditions, inflation pressures and inflation expectations, and financial and international developments.

Voting for the monetary policy action were Jerome H. Powell, Chair; John C. Williams, Vice Chair; Thomas I. Barkin; Michael S. Barr; Raphael W. Bostic; Michelle W. Bowman; Lisa D. Cook; Mary C. Daly; Beth M. Hammack; Philip N. Jefferson; Adriana D. Kugler; and Christopher J. Waller.

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Attachment

For media inquiries, please email [media@frb.gov](mailto:media@frb.gov) or call 202-452-2955.

For release at 2:00 p.m. EST

November 7, 2024

### **Decisions Regarding Monetary Policy Implementation**

The Federal Reserve has made the following decisions to implement the monetary policy stance announced by the Federal Open Market Committee in its [statement](#) on November 7, 2024:

- The Board of Governors of the Federal Reserve System voted unanimously to lower the interest rate paid on reserve balances to 4.65 percent, effective November 8, 2024.
- As part of its policy decision, the Federal Open Market Committee voted to direct the Open Market Desk at the Federal Reserve Bank of New York, until instructed otherwise, to execute transactions in the System Open Market Account in accordance with the following domestic policy directive:

"Effective November 8, 2024, the Federal Open Market Committee directs the Desk to:

- Undertake open market operations as necessary to maintain the federal funds rate in a target range of 4-1/2 to 4-3/4 percent.
  - Conduct standing overnight repurchase agreement operations with a minimum bid rate of 4.75 percent and with an aggregate operation limit of \$500 billion.
  - Conduct standing overnight reverse repurchase agreement operations at an offering rate of 4.55 percent and with a per-counterparty limit of \$160 billion per day.
  - Roll over at auction the amount of principal payments from the Federal Reserve's holdings of Treasury securities maturing in each calendar month that exceeds a cap of \$25 billion per month. Redeem Treasury coupon securities up to this monthly cap and Treasury bills to the extent that coupon principal payments are less than the monthly cap.
  - Reinvest the amount of principal payments from the Federal Reserve's holdings of agency debt and agency mortgage-backed securities (MBS) received in each calendar month that exceeds a cap of \$35 billion per month into Treasury securities to roughly match the maturity composition of Treasury securities outstanding.
  - Allow modest deviations from stated amounts for reinvestments, if needed for operational reasons.
  - Engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency MBS transactions."
- In a related action, the Board of Governors of the Federal Reserve System voted unanimously to approve a 1/4 percentage point decrease in the primary credit rate to 4.75 percent, effective November 8, 2024. In taking this action, the Board approved requests to establish that rate submitted by the Boards of Directors of the Federal Reserve Banks of Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, Minneapolis, Dallas, and San Francisco.

(more)

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This information will be updated as appropriate to reflect decisions of the Federal Open Market Committee or the Board of Governors regarding details of the Federal Reserve's operational tools and approach used to implement monetary policy.

More information regarding open market operations and reinvestments may be found on the Federal Reserve Bank of New York's [website](#).



For release on delivery  
3:00 p.m. EST (2:00 p.m. CST)  
November 14, 2024

Economic Outlook

Remarks by

Jerome H. Powell

Chair

Board of Governors of the Federal Reserve System

at

Dallas, Texas

November 14, 2024

Good afternoon. Thank you to the World Affairs Council, the Federal Reserve Bank of Dallas, and the Dallas Regional Chamber for the kind invitation to be with you today. I will start with some brief comments on the economy and monetary policy.

Looking back, the U.S. economy has weathered a global pandemic and its aftermath and is now back to a good place. The economy has made significant progress toward our dual-mandate goals of maximum employment and stable prices. The labor market remains in solid condition. Inflation has eased substantially from its peak, and we believe it is on a sustainable path to our 2 percent goal. We are committed to maintaining our economy's strength by returning inflation to our goal while supporting maximum employment.

### **Recent Economic Data**

#### *Economic growth*

The recent performance of our economy has been remarkably good, by far the best of any major economy in the world. Economic output grew by more than 3 percent last year and is expanding at a stout 2.5 percent rate so far this year. Growth in consumer spending has remained strong, supported by increases in disposable income and solid household balance sheets. Business investment in equipment and intangibles has accelerated over the past year. In contrast, activity in the housing sector has been weak.

Improving supply conditions have supported this strong performance of the economy. The labor force has expanded rapidly, and productivity has grown faster over the past five years than its pace in the two decades before the pandemic, increasing the productive capacity of the economy and allowing rapid economic growth without overheating.

### *The labor market*

The labor market remains in solid condition, having cooled off from the significantly overheated conditions of a couple of years ago, and is now by many metrics back to more normal levels that are consistent with our employment mandate. The number of job openings is now just slightly above the number of unemployed Americans seeking work. The rate at which workers quit their jobs is below the pre-pandemic pace, after touching historic highs two years ago. Wages are still increasing, but at a more sustainable pace. Hiring has slowed from earlier in the year. The most recent jobs report for October reflected significant effects from hurricanes and labor strikes, making it difficult to get a clear signal. Finally, at 4.1 percent, the unemployment rate is notably higher than a year ago but has flattened out in recent months and remains historically low.

### *Inflation*

The labor market has cooled to the point where it is no longer a source of significant inflationary pressures. This cooling and the substantial improvement in broader supply conditions have brought inflation down significantly over the past two years from its mid-2022 peak above 7 percent. Progress on inflation has been broad based. Estimates based on the consumer price index and other data released this week indicate that total PCE prices rose 2.3 percent over the 12 months ending in October and that, excluding the volatile food and energy categories, core PCE prices rose 2.8 percent. Core measures of goods and services inflation, excluding housing, fell rapidly over the past two years and have returned to rates closer to those consistent with our goals. We expect that these rates will continue to fluctuate in their recent ranges. We are watching

carefully to be sure that they do, however, just as we are closely tracking the gradual decline in housing services inflation, which has yet to fully normalize. Inflation is running much closer to our 2 percent longer-run goal, but it is not there yet. We are committed to finishing the job. With labor market conditions in rough balance and inflation expectations well anchored, I expect inflation to continue to come down toward our 2 percent objective, albeit on a sometimes-bumpy path.

### **Monetary Policy**

Given progress toward our inflation goal and the cooling of labor market conditions, last week my Federal Open Market Committee colleagues and I took another step in reducing the degree of policy restraint by lowering our policy interest rate 1/4 percentage point.

We are confident that with an appropriate recalibration of our policy stance, strength in the economy and the labor market can be maintained, with inflation moving sustainably down to 2 percent. We see the risks to achieving our employment and inflation goals as being roughly in balance, and we are attentive to the risks to both sides. We know that reducing policy restraint too quickly could hinder progress on inflation. At the same time, reducing policy restraint too slowly could unduly weaken economic activity and employment.

We are moving policy over time to a more neutral setting. But the path for getting there is not preset. In considering additional adjustments to the target range for the federal funds rate, we will carefully assess incoming data, the evolving outlook, and the balance of risks. The economy is not sending any signals that we need to be in a hurry to lower rates. The strength we are currently seeing in the economy gives us the

ability to approach our decisions carefully. Ultimately, the path of the policy rate will depend on how the incoming data and the economic outlook evolve.

We remain resolute in our commitment to the dual mandate given to us by Congress: maximum employment and price stability. Our aim has been to return inflation to our objective without the kind of painful rise in unemployment that has often accompanied past efforts to bring down high inflation. That would be a highly desirable result for the communities, families, and businesses we serve. While the task is not complete, we have made a good deal of progress toward that outcome.

Thank you, and I look forward to our discussion.



June 6, 2024

# Kroll Lowers its Recommended U.S. Equity Risk Premium to 5.0%, Effective June 5, 2024

## Executive Summary

Kroll regularly reviews fluctuations in global economic and financial market conditions that may warrant changes to our equity risk premium (ERP) and accompanying risk-free rate recommendations. The risk-free rate and ERP are key inputs used to calculate the cost of equity capital in the context of the Capital Asset Pricing Model (CAPM) and other models used to develop discount rates. We also update country risk data on a quarterly basis for 175+ countries using various models.

**The Kroll Recommended U.S. ERP is decreasing from 5.5% to 5.0% when developing USD-denominated discount rates as of June 5, 2024, and thereafter, until further notice.**

Notwithstanding the current recommendation, we are monitoring economic and geopolitical events that may change our views and impact our guidance toward the end of 2024 and into 2025. In particular, the U.S. Presidential Election in November 2024 has the potential to cause turmoil in U.S. and global financial markets. Of particular concern is any potential promise of a significant increase in government spending and a corresponding rise in the U.S. budget deficit, which could place upward pressure on long-term interest rates and disrupt financial markets. Other global geopolitical events that warrant close watch include, but are not limited to, the impact of general elections in other major economies (e.g., Mexico, India, UK), trade conflicts between the U.S. and China, rising tensions in the Middle East and the protracted Russia's war on Ukraine.

## Background

The Kroll U.S. Recommended ERP was last changed on June 8, 2023, when it was lowered from 6.0% to 5.5%. This ERP guidance was applicable when developing USD-denominated discount rates and was to be used in conjunction with our U.S. risk-free guidance—the higher of the spot 20-year U.S. Treasury yield (prevailing as of the valuation date) and the Kroll normalized U.S. risk-free rate of 3.5%.

In the “Kroll Cost of Capital Recommendations and Potential Upcoming Changes – February 8, 2024 Update”, Kroll reaffirmed its Recommended U.S. ERP guidance at 5.5%. However, that communication also indicated that a “risk-on” attitude in U.S. equity markets meant that the ERP was likely to come down in 2024. At the time, we balanced new stock market record highs (which were partly boosted by optimism around generative artificial intelligence (GenAI), an expected improvement in earnings growth and a resilient U.S. economy), with the potential negative impact from restrictive monetary policies (keeping interest rates higher for a longer period of time) and the risk of major geopolitical events broadening to the global economy (e.g., escalating conflicts in the Middle East).

At this juncture, the U.S. economy continues to be resilient, but there are signs that the labor market is cooling, and consumer spending is slowing. These latest indicators actually increase the probability of a soft-landing scenario (i.e., lower inflation, lower real growth, but no recession) and create the conditions for the U.S. central bank (the Federal Reserve Bank, or the Fed) to start cutting interest rates. This, in turn, is likely to create more favorable financing conditions and continue to support U.S. equity markets.

**Based on current economic and financial market conditions, the Kroll Recommended ERP is being lowered from 5.5% to 5.0% when developing USD-denominated discount rates as of June 5, 2024, and thereafter, until further notice.** In addition, we continue to recommend using the spot 20-year U.S. Treasury yield as the proxy for the risk-free rate if the prevailing spot yield as of the valuation date is higher than the Kroll normalized U.S. risk-free rate of 3.5%.

The decision to lower the U.S. ERP Recommendation is based on the following trends in economic indicators and financial market conditions:

- In late 2023 and early in 2024, investors began pricing several cuts in the Fed funds rate—the central bank’s policy interest rate—which helped fuel a surge in equity markets. However, a surprising resilience in the U.S. economy and a sudden increase in inflation readings in December 2023 and again in February and March 2024, led to a delay in expectations on the number and timing of Fed rate cuts in 2024. Markets reacted by pricing a single-rate cut later this year (contrary to prior expectations of three cuts taking place earlier in the year), with some economists even suggesting a rate hike as a possibility. More recently, however, economic activity has shown signs of slowing down. First quarter real GDP growth was downwardly revised to 1.3%, partly due to a deceleration in consumer spending, as pandemic-related excess savings have been mostly depleted and the overhang of inflation has diminished purchasing power. This slowdown (together with the inflation and unemployment trends discussed below), actually makes it more likely that the Fed will begin cutting interest rates earlier this year relative to recent expectations.

- Major equity indices have recently reached new all-time highs, supported by investors' continued optimism. The surge in technology stocks due to potential productivity gains from GenAI has broadened to other sectors in the economy. Since their respective cycle lows in late October 2023 through May 28, 2024, the S&P 500 Index (a market-cap-weighted index) has increased 28.9% in price terms, whereas the NASDAQ Composite surged by 35.1%. The S&P 500 Equal-Weight Index also gained 22.9% since its October low. For perspective, a 20% or higher increase in equity markets relative to recent lows is considered to be a "bull" market. In addition, during the month of May 2024, all major equity indices reached all-time highs: the S&P 500 Index hit a new record on May 21, 2024, while the NASDAQ Composite did so on May 28, 2024. The Dow Jones Industrial Average (DJIA), an equal-weighted index that no longer attracts significant global investment allocations, surpassed the psychological level of 40,000 for the first time on May 17, 2024.<sup>1</sup>
- The VIX (the volatility index on the S&P 500), also referred to as the "fear index," has been generally low during 2024. Since the beginning of 2024 through May 28, the index has averaged 14.1, with a low of 11.9 reached on May 21, 2024—the lowest level since November 2019. These levels are also much lower than the long-term historical average of 20.1 and the average observed since the height of COVID-19. For perspective, during 2022 and 2023, the VIX averaged 25.6 and 16.8, respectively.
- U.S. corporate credit spreads have been fairly tight and are currently lower than in June 2023, when we last changed our ERP recommendation. They are also significantly lower than their long-term historical average (from late 1996 through the present). The underlying corporate yields on investment-grade and speculative-grade bonds have generally been on a downward trend since 2023.
- ERP indications from forward-looking models based on Professor Aswath Damodaran are at similar levels as when we last changed our U.S. ERP recommendation, while the Default Spread model points to a sustained decline in ERP.

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<sup>1</sup> According to an analysis by S&P Dow Jones Indices, at the end of 2019, there were over USD 11.2 trillion index-linked products and derivative contracts benchmarked to the S&P 500, which included USD 4.6 trillion passively tracking the index. In comparison, there were USD 32 billion benchmarked to the DJIA, which included USD 28 billion in passive assets. For more details see "Comparing Iconic Indices: The S&P 500® and DJIA®", S&P Dow Jones Indices – A Division of S&P Global, June 2021. Available here: <https://www.spglobal.com/spdji/en/documents/education/education-comparing-iconic-indices-the-sp-500-and-djia.pdf>.

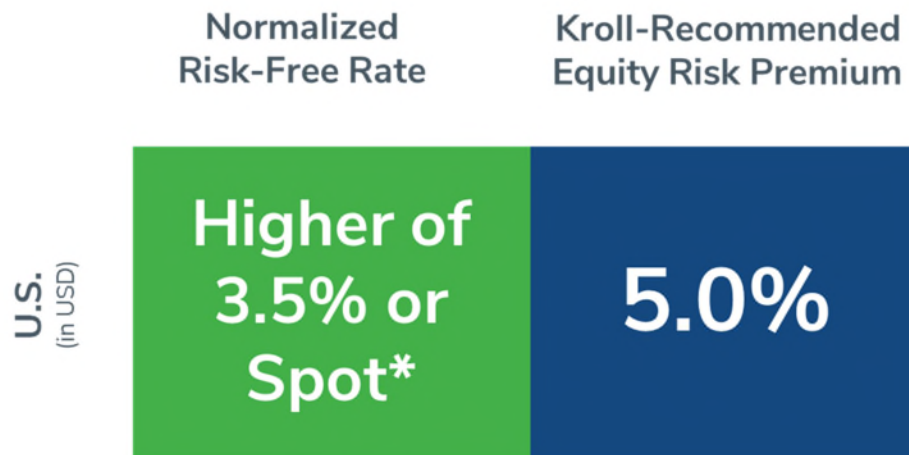


- Even though the U.S. unemployment rate has increased recently, it is still relatively low on a historical basis: in April 2024, the unemployment rate ticked up to 3.9%, from 3.8% in March 2024 and from 3.4% in April 2023, a post-pandemic low. For perspective, unemployment rates of 3.4% were last observed in the late 1960s. The persistence of low unemployment is one of the major reasons why economists believe that a soft landing is achievable, and the probability of a U.S. recession in the near term is relatively low. During past recessions, the unemployment rate saw significant increases. In the U.S., the average unemployment rate during a recession is 6.3%, which is far above the current level.
- Inflation, as measured by Consumer Price Index (CPI), is still above the Fed's 2.0% target, but far below its multiple-decades high of 9.1% (before seasonal adjustments) in the 12-month period ending in June 2022. The process of disinflation has been a bumpy one, supporting the Fed's decision to keep interest rates at their current high level for a longer period. In June 2023, CPI inflation reached a local low of 3.0%, only to continue moving range-bound between 3.1% and 3.7%. The latest CPI inflation was 3.4% as of April 2024, a downtick from the prior month and a welcome reading after two consecutive months of rate acceleration. The Fed's preferred gauge for inflation, the Personal Consumer Expenditures (PCE) Price Index, has actually accelerated in March to 2.7% and remained at that level in April 2024. The core PCE index (i.e., excluding food and energy) dropped to 2.8% in February, but has remained at that level since then. Nevertheless, wage price pressures appear to be easing and the cooling job market may bode well for inflation trends.

Notwithstanding these positive factors that support a decrease in the U.S. ERP, we are monitoring economic and geopolitical events that may change our views and impact our guidance toward the end of 2024 and into 2025. In particular, the U.S. Presidential Election in November 2024 has the potential to cause turmoil in U.S. and global financial markets. The growing level of government debt in the U.S., especially in an election year when candidates propose different fiscal packages to sway voters, may worsen the fiscal position for the country and create upward pressures on long-term interest rates. The acrimonious political debate regarding the debt ceiling that took place in the first half of 2023 was a contributing factor to Fitch Ratings' decision to lower its U.S. sovereign credit rating from AAA to AA+. S&P Global Ratings had already downgraded the U.S. credit rating to AA+ back in 2011 under similar circumstances. Moreover, Moody's Investor Services, the last major credit agency assigning the coveted Aaa rating to the U.S., has lowered its outlook, citing political and financial concerns. Therefore, this will be an area that will warrant close monitoring. Other geopolitical events with potential for escalation to global markets will also be monitored.

## Summary of U.S. Cost of Capital Recommendations

- Kroll is lowering its Recommended U.S. ERP from 5.5% to 5.0% when developing USD-denominated discount rates as of June 5, 2024, and thereafter, until further notice. This is matched with the higher of the spot 20-year U.S. Treasury yield as of the valuation date and the Kroll normalized U.S. risk-free rate of 3.5%.



\* We recommend using the spot 20-year U.S. Treasury yield as the proxy for the risk-free rate, if the prevailing yield as of the valuation date is higher than our recommended U.S. normalized risk-free rate of 3.5%. This guidance is effective when developing USD-denominated discount rates as of June 16, 2022, and thereafter.

- Regarding risk-free rates, as investors attempt to predict the pace and magnitude of potential rate cuts by major central banks, we continue to observe high levels of volatility in spot yields of government bonds of major economies. Long-term bonds yields may continue to fluctuate considerably in the near future, before stabilizing. During these periods, project teams may need to consider using a moving average of spot yields to mitigate the impact of this volatility in their valuation analyses (e.g., weekly or monthly averages).
- Notwithstanding the current recommendations, we are monitoring economic and geopolitical events that may change our views and impact our guidance toward the end of 2024 and into 2025. In particular, the U.S. Presidential Election in November 2024 has the potential to cause disruption in U.S. and global financial markets. Of particular concern is any potential promise of significant increases in government spending that lead to a significant rise in the budget deficit, which could place upward pressures on long-term interest rates and disrupt equity markets. Other global geopolitical events that warrant close watch include, but are not limited to, the impact of general elections in other major economies (e.g., Mexico, India, UK), trade conflicts between the U.S. and China, rising tensions in the Middle East and the protracted Russia's war on Ukraine.

Please contact our support team with any questions: [costofcapital.support@kroll.com](mailto:costofcapital.support@kroll.com)

## Survey: Market Risk Premium and Risk-Free Rate used for 96 countries in 2024

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### ABSTRACT

This paper contains the statistics of a survey about the Risk-Free Rate (**R<sub>F</sub>**) and the Market Risk Premium (**MRP**) used in 2024 for **96 countries**. We got answers for 104 countries, but we only report the results for 96 countries with more than 6 answers.

The paper also contains the links to previous years surveys, from 2008 to 2023.

1. Market Risk Premium (MRP), Risk Free Rate (R<sub>F</sub>) and Km [R<sub>F</sub> + MRP] used in 2024 in 96 countries
  2. Changes from 2015 to 2018, 2019, 2020, 2021, 2022 and 2023
  3. Previous surveys
  4. Expected and Required Equity Premium: different concepts
  5. Conclusion
- Exhibit 1. Mail sent in February 2024.  
Exhibit 2. Some comments and webs recommended by respondents.

**JEL Classification:** G12, G31, M21

**Keywords:** equity premium; required equity premium; expected equity premium; risk-free rate

March 11, 2024

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## 1. Market Risk Premium (MRP), Risk Free Rate (RF) and Km [RF + MRP] used in 2024 in 96 countries

We sent a short email (see exhibit 1) in February, 2024 to more than 14,000 email addresses of finance and economics professors, analysts and managers of companies obtained from previous correspondence, papers and webs of companies and universities. We asked about the Risk-Free Rate (RF) and the Market Risk Premium (MRP) used *“to calculate the required return to equity in different countries”*.

By March 9, 2024, we had received 1,634 emails. 134 persons answered that they do not use MRP (see table 1), most of them use Km (required return to equity) but do not use MRP nor RF. The remaining emails had specific Risk-Free Rates and MRPs used in 2024 for one or more countries.<sup>1</sup> We would like to sincerely thank everyone who took the time to answer us.

**Table 1. MRP and RF used in 2022: 1,624 emails**

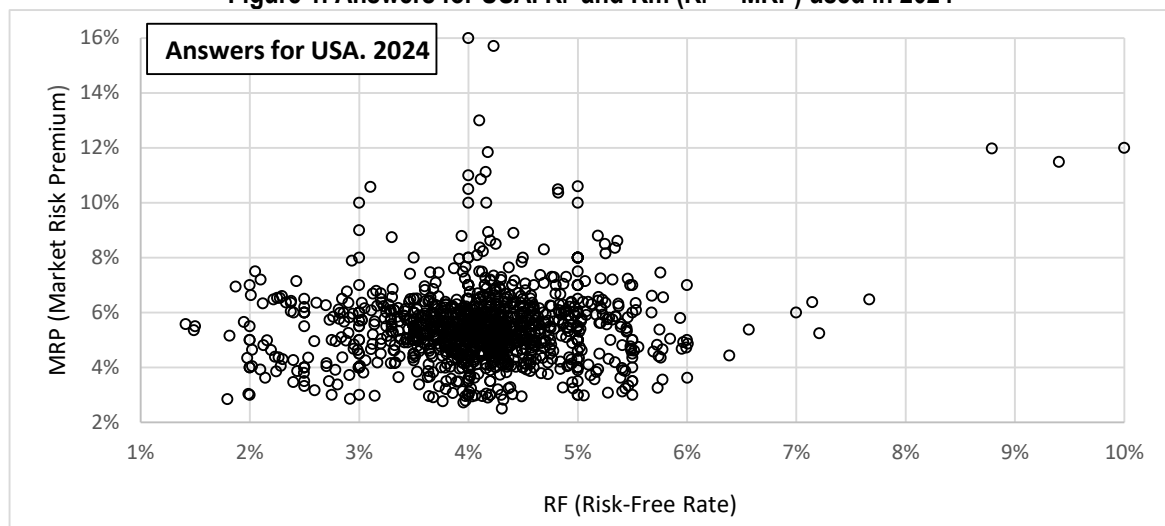
	Total
Answers reported (MRP figures)	4,064
Answers for countries with less than 6 answers	22
Outliers	42
“I can’t provide you those figures: now are confidential”	61
Only MRP or RF (not both)	34
“We do not use MRP”	134

**Table 2** contains the statistics of the MRP used in 2024 for 96 countries. We got answers for 102 countries, but we only report the results for 96 countries with more than 6 answers.

**Table 3** contains the statistics of the Risk-Free Rate (RF) used in 2024 in the 96 countries<sup>2</sup> and **Table 4** contains the average of Km (required return to equity:  $Km = Risk\text{-Free Rate} + MRP$ ).

**Figure 1** is a graphic representation of the answers (Km and RF) we got for USA.

**Figure 1. Answers for USA. RF and Km (RF + MRP) used in 2024**



<sup>1</sup> We considered 54 of them as outliers because they provided a very small MRP (below 2%)

<sup>2</sup> Fernandez, P. (2020), “Normalized’ Risk-Free Rate: Fiction or Science Fiction?” Available at: <https://ssrn.com/abstract=3708863>

**Table 2. Market Risk Premium (MRP) used for 96 countries in 2024**

MRP	Number of Answers	Average	Median	MAX	min
USA	1287	5,5%	5,5%	16,0%	3,0%
Spain 2024	413	6,4%	6,0%	15,0%	3,0%
AbuDhabi	6	6,0%	6,3%	6,5%	5,1%
Andorra	6	8,2%	8,7%	8,9%	7,0%
Argentina	13	21,3%	21,1%	26,7%	13,0%
Australia	34	5,5%	5,4%	10,0%	2,0%
Austria	56	5,9%	5,9%	10,2%	3,0%
Bangladesh	6	11,6%	11,6%	12,9%	10,6%
Barbados	6	16,3%	17,1%	18,2%	13,4%
Belgium	68	5,7%	5,5%	8,0%	3,0%
Bolivia	8	15,1%	14,8%	17,9%	13,0%
Bosnia	21	7,9%	6,0%	16,6%	3,0%
Brazil	56	7,6%	8,3%	11,1%	3,5%
Bulgaria	11	6,8%	7,3%	8,3%	3,0%
Canada	60	5,2%	5,5%	7,5%	0,5%
Chile	21	6,3%	6,3%	7,4%	5,2%
China	36	6,6%	6,0%	13,0%	2,0%
Colombia	19	7,4%	7,4%	9,2%	4,6%
Costa Rica	10	12,2%	12,9%	14,7%	8,8%
Croatia	22	6,2%	6,0%	9,0%	3,0%
Cyprus	7	7,8%	7,4%	9,0%	7,0%
Czech Republic	27	5,6%	5,6%	8,0%	0,3%
Denmark	34	5,8%	5,5%	12,0%	3,0%
Dominican Rep.	9	11,1%	11,5%	13,0%	9,4%
Ecuador	17	15,8%	18,7%	23,2%	4,5%
Egypt	11	16,8%	15,6%	20,0%	14,4%
Estonia	17	6,3%	6,7%	6,9%	5,3%
Ethiopia	7	19,5%	20,5%	20,7%	16,9%
Finland	32	5,7%	5,5%	8,0%	3,0%
France	92	5,6%	5,6%	8,0%	3,0%
Georgia	8	10,0%	10,5%	10,7%	8,6%
Germany	273	5,6%	5,6%	8,5%	2,0%
Ghana	7	22,7%	23,8%	25,7%	18,3%
Greece	41	6,7%	6,0%	12,2%	3,0%
Hong Kong	23	7,3%	6,6%	13,0%	5,2%
Hungary	24	6,3%	6,0%	9,0%	3,0%
Iceland	6	6,6%	6,9%	7,1%	5,5%
India	31	8,4%	8,0%	16,0%	4,0%
Indonesia	9	8,2%	8,3%	9,1%	7,0%
Ireland	38	5,5%	5,7%	7,2%	3,0%
Israel	23	6,0%	5,9%	7,1%	5,0%
Italy	86	6,2%	6,0%	12,0%	3,0%
Jamaica	6	13,2%	13,8%	14,9%	10,6%
Japan	39	5,5%	6,0%	7,5%	3,0%
Kazakhstan	6	7,8%	7,9%	8,9%	6,0%
Kenya	9	14,9%	15,0%	16,2%	13,4%
Korea, (South)	22	5,8%	5,8%	6,5%	5,1%
Kuwait	12	6,3%	6,7%	6,9%	5,3%
Latvia	13	7,0%	7,3%	7,7%	6,0%
Lithuania	28	6,5%	6,7%	7,1%	5,5%
Luxembourg	39	5,5%	5,5%	8,0%	3,0%
Malaysia	8	7,2%	7,4%	8,0%	6,0%
Malta	7	6,2%	5,8%	7,5%	5,5%
Mauritius	8	8,7%	9,1%	9,4%	7,4%

Mexico	47	7,3%	7,4%	13,0%	4,6%
Mongolia	10	16,4%	16,4%	21,0%	13,4%
Montenegro	6	11,4%	12,0%	13,7%	7,3%
Morocco	17	9,1%	9,5%	9,9%	7,8%
Mozambique	13	18,6%	19,1%	20,7%	15,0%
Netherlands	61	5,4%	5,4%	8,0%	3,0%
New Zealand	12	6,0%	5,9%	7,5%	4,4%
Nigeria	11	15,2%	15,6%	17,9%	12,0%
Norway	30	5,4%	5,3%	8,0%	3,0%
Pakistan	11	16,3%	18,9%	22,1%	6,0%
Panama	10	8,9%	8,5%	13,0%	7,0%
Peru	21	8,8%	7,5%	16,4%	5,7%
Phillipines	13	7,4%	7,2%	8,8%	6,0%
Poland	33	5,8%	5,8%	8,0%	3,0%
Portugal	46	6,0%	6,0%	8,2%	2,7%
Qatar	9	6,7%	6,3%	12,0%	4,6%
Romania	32	7,4%	7,4%	9,7%	5,5%
Nrth Macedonia	6	10,7%	10,6%	12,2%	9,4%
Russia	19	10,5%	10,5%	18,9%	4,7%
Saudi Arabia	22	6,8%	6,1%	14,0%	4,6%
Serbia	18	6,9%	6,0%	11,1%	3,0%
Singapore	21	5,1%	5,1%	5,7%	4,4%
Slovakia	21	5,6%	5,8%	8,0%	0,5%
Slovenia	18	5,9%	6,0%	8,0%	3,0%
South Africa	33	8,3%	8,6%	16,0%	5,0%
Sri Lanka	7	23,5%	23,8%	25,7%	21,0%
Sweden	55	5,4%	5,4%	8,0%	3,0%
Switzerland	61	5,3%	5,3%	8,0%	3,0%
Taiwan	28	6,0%	6,0%	8,0%	3,0%
Tanzania	7	13,9%	14,6%	14,9%	12,0%
Thailand	13	7,7%	8,0%	8,7%	6,6%
Trinidad and Tobago	7	10,0%	10,5%	10,7%	8,6%
Tunisia	8	21,7%	22,5%	25,3%	16,9%
Turkey	13	16,5%	17,2%	20,0%	12,0%
Uganda	6	13,9%	14,6%	14,9%	12,0%
Ukraine	10	22,6%	22,4%	25,5%	21,0%
United Arab Emirates (UAE)	13	6,2%	5,7%	12,0%	3,5%
United Kingdom	82	5,7%	5,6%	8,0%	4,0%
Uruguay	9	9,0%	8,5%	13,0%	7,0%
Venezuela	9	26,8%	29,0%	32,3%	13,0%
Vietnam	10	9,7%	10,4%	10,8%	8,0%
Zambia	8	22,7%	23,8%	25,7%	18,3%

**Table 3. Risk Free Rate (Rf) used for 96 countries in 2024**

Rf	Number of Answers	Average	Median	MAX	min
USA	1287	4,1%	4,0%	10,0%	1,5%
Spain 2024	413	3,5%	3,5%	5,1%	2,0%
AbuDhabi	6	2,9%	2,8%	3,5%	2,7%
Andorra	6	3,3%	3,2%	4,0%	2,9%
Argentina	13	17,4%	15,8%	40,0%	9,5%
Australia	34	4,2%	4,2%	5,0%	2,5%
Austria	56	3,0%	3,0%	4,5%	2,0%
Bangladesh	6	9,2%	8,9%	14,1%	5,5%
Barbados	6	4,9%	4,7%	5,8%	4,6%
Belgium	68	3,1%	3,0%	4,5%	2,0%

Bolivia	8	6,8%	6,8%	8,1%	5,7%
Bosnia	21	3,8%	3,1%	8,1%	2,0%
Brazil	56	9,8%	10,0%	13,5%	4,5%
Bulgaria	11	4,1%	4,1%	6,3%	2,6%
Canada	60	3,5%	3,5%	5,0%	1,7%
Chile	21	6,0%	5,4%	13,0%	4,5%
China	36	3,0%	2,5%	5,1%	2,0%
Colombia	19	9,8%	9,6%	13,0%	5,4%
Costa Rica	10	4,7%	5,0%	5,8%	3,5%
Croatia	22	3,1%	3,1%	4,5%	2,0%
Cyprus	7	3,6%	3,4%	4,1%	3,2%
Czech Republic	27	3,4%	3,4%	5,0%	2,0%
Denmark	34	2,9%	2,9%	4,5%	2,0%
Dominican Rep.	9	7,9%	7,8%	9,2%	7,4%
Ecuador	17	13,9%	14,1%	17,3%	9,0%
Egypt	11	18,7%	18,1%	27,0%	14,8%
Estonia	17	2,3%	2,2%	3,5%	1,5%
Ethiopia	7	12,0%	11,7%	13,8%	11,4%
Finland	32	3,0%	3,0%	4,5%	1,8%
France	92	3,0%	3,0%	4,5%	1,0%
Georgia	8	4,9%	4,7%	5,8%	4,7%
Germany	273	2,7%	2,5%	7,5%	1,0%
Ghana	7	18,6%	18,0%	21,9%	17,4%
Greece	41	3,3%	3,3%	4,7%	2,0%
Hong Kong	23	3,9%	3,8%	4,3%	3,6%
Hungary	24	4,3%	3,4%	8,9%	2,0%
Iceland	6	6,4%	6,2%	7,4%	6,1%
India	31	7,2%	7,1%	10,0%	6,0%
Indonesia	9	6,9%	6,9%	7,7%	6,4%
Ireland	38	2,9%	3,0%	3,5%	2,2%
Israel	23	4,4%	4,1%	5,6%	3,9%
Italy	86	3,4%	3,5%	4,5%	2,0%
Jamaica	6	4,8%	4,6%	5,8%	4,5%
Japan	39	1,1%	0,8%	4,0%	0,5%
Kazakhstan	6	5,7%	5,8%	7,0%	4,8%
Kenya	9	16,1%	15,4%	20,1%	14,1%
Korea, (South)	22	3,5%	3,5%	4,0%	2,9%
Kuwait	12	2,0%	2,0%	2,3%	1,9%
Latvia	13	2,3%	2,9%	3,5%	0,9%
Lithuania	28	3,1%	3,6%	4,3%	1,5%
Luxembourg	39	3,1%	3,0%	4,5%	2,0%
Malaysia	8	4,0%	4,1%	4,5%	3,7%
Malta	7	3,7%	3,5%	4,2%	3,3%
Mauritius	8	4,6%	4,4%	5,6%	4,1%
Mexico	47	9,2%	9,2%	12,0%	5,4%
Mongolia	10	10,4%	9,8%	12,0%	9,5%
Montenegro	6	6,6%	7,1%	8,1%	2,5%
Morocco	17	3,7%	3,7%	4,5%	3,3%
Mozambique	13	7,3%	7,3%	9,2%	5,0%
Netherlands	61	2,9%	3,0%	4,5%	2,0%
New Zealand	12	4,9%	4,8%	5,7%	4,7%
Nigeria	11	13,9%	14,8%	18,0%	5,0%
Norway	30	3,3%	3,3%	4,5%	1,5%
Pakistan	11	15,7%	15,7%	17,2%	14,2%
Panama	10	6,6%	6,9%	7,0%	5,7%
Peru	21	6,2%	6,4%	7,7%	4,0%
Phillipines	13	6,0%	6,0%	7,3%	5,0%
Poland	33	4,3%	4,5%	6,8%	2,0%

Portugal	46	3,1%	3,0%	5,8%	2,0%
Qatar	9	4,7%	4,8%	6,0%	2,9%
Romania	32	6,4%	6,6%	7,8%	3,0%
Nrth Macedonia	6	6,4%	6,2%	7,5%	5,9%
Russia	19	11,1%	11,5%	15,0%	4,9%
Saudi Arabia	22	5,4%	5,1%	8,0%	4,3%
Serbia	18	4,2%	3,5%	8,0%	2,0%
Singapore	21	3,2%	3,0%	4,0%	2,6%
Slovakia	21	3,1%	3,1%	4,5%	2,0%
Slovenia	18	3,1%	3,0%	4,5%	2,0%
South Africa	33	10,3%	10,1%	12,0%	9,0%
Sri Lanka	7	12,6%	13,0%	15,4%	9,3%
Sweden	55	2,9%	2,9%	4,5%	1,9%
Switzerland	61	2,2%	2,1%	4,5%	0,7%
Taiwan	28	1,4%	1,2%	2,2%	0,8%
Tanzania	7	9,3%	8,8%	11,5%	8,1%
Thailand	13	2,7%	2,6%	3,0%	2,4%
Trinidad and Tobago	7	4,9%	4,7%	5,8%	4,7%
Tunisia	8	7,9%	7,6%	9,2%	7,6%
Turkey	13	18,6%	15,2%	30,0%	10,0%
Uganda	6	13,6%	13,0%	17,7%	11,3%
Ukraine	10	13,1%	11,7%	20,6%	7,7%
United Arab Emirates (UAE)	13	4,5%	4,2%	6,7%	3,0%
United Kingdom	82	4,0%	4,0%	6,0%	2,0%
Uruguay	9	7,1%	8,0%	10,4%	2,0%
Venezuela	9	24,1%	24,7%	29,9%	20,2%
Vietnam	10	3,1%	3,0%	4,5%	2,2%
Zambia	8	26,6%	26,8%	29,0%	23,9%

**Table 4. Km [Required return to equity (market):  $Rf + MRP$ ] used for 96 countries in 2024**

<b>Km = <math>Rf + MRP</math></b>	Number of Answers	Average	Median	MAX	min
USA	1287	9,6%	9,5%	22,0%	5,0%
Spain 2024	413	9,8%	9,7%	20,0%	6,0%
AbuDhabi	6	8,9%	9,1%	9,3%	8,3%
Andorra	6	11,5%	11,8%	11,8%	10,9%
Argentina	13	38,7%	38,2%	63,0%	30,0%
Australia	34	9,6%	9,3%	15,0%	5,0%
Austria	56	8,9%	8,5%	13,2%	6,1%
Bangladesh	6	20,8%	20,6%	24,7%	17,1%
Barbados	6	21,2%	21,8%	22,8%	19,1%
Belgium	68	8,8%	8,5%	10,5%	6,1%
Bolivia	8	21,9%	21,6%	24,6%	20,1%
Bosnia	21	11,7%	8,8%	22,9%	6,1%
Brazil	56	17,3%	16,5%	23,2%	12,3%
Bulgaria	11	10,9%	11,5%	13,9%	6,1%
Canada	60	8,4%	8,7%	11,0%	2,5%
Chile	21	12,4%	11,9%	19,0%	10,9%
China	36	9,6%	9,8%	17,0%	4,5%
Colombia	19	17,2%	17,6%	21,8%	11,9%
Costa Rica	10	16,9%	17,6%	18,4%	13,8%
Croatia	22	9,3%	8,9%	13,0%	6,1%
Cyprus	7	11,4%	10,9%	13,1%	10,7%
Czech Republic	27	8,9%	9,0%	11,2%	3,7%
Denmark	34	8,7%	8,5%	16,0%	6,1%
Dominican Rep.	9	19,1%	19,0%	21,0%	17,9%
Ecuador	17	29,7%	34,4%	37,2%	15,0%



Egypt	11	35,4%	35,0%	47,0%	29,3%
Estonia	17	8,6%	8,5%	9,3%	8,4%
Ethiopia	7	31,5%	32,0%	32,2%	29,8%
Finland	32	8,6%	8,5%	10,5%	6,1%
France	92	8,6%	8,5%	12,0%	5,0%
Georgia	8	14,9%	15,2%	15,4%	14,0%
Germany	273	8,3%	8,4%	16,0%	4,5%
Ghana	7	41,3%	41,5%	43,7%	38,2%
Greece	41	10,0%	9,5%	16,6%	6,1%
Hong Kong	23	11,2%	10,2%	16,8%	9,3%
Hungary	24	10,6%	9,3%	17,9%	6,1%
Iceland	6	13,0%	13,1%	13,4%	12,3%
India	31	15,7%	15,4%	26,0%	11,5%
Indonesia	9	15,1%	14,9%	16,1%	14,1%
Ireland	38	8,4%	8,4%	10,4%	6,1%
Israel	23	10,4%	10,4%	11,8%	9,0%
Italy	86	9,7%	9,5%	16,5%	6,0%
Jamaica	6	18,0%	18,4%	19,4%	16,2%
Japan	39	6,6%	6,9%	9,3%	4,5%
Kazakhstan	6	13,5%	13,1%	14,7%	12,4%
Kenya	9	31,0%	30,6%	33,5%	28,7%
Korea, (South)	22	9,3%	9,4%	9,9%	8,8%
Kuwait	12	8,4%	8,6%	8,8%	7,6%
Latvia	13	9,3%	9,4%	10,2%	8,6%
Lithuania	28	9,6%	9,8%	10,3%	8,6%
Luxembourg	39	8,6%	8,5%	10,5%	6,1%
Malaysia	8	11,2%	11,3%	12,1%	10,2%
Malta	7	10,0%	9,6%	11,7%	9,4%
Mauritius	8	13,3%	13,4%	13,6%	12,7%
Mexico	47	16,5%	17,0%	24,3%	11,2%
Mongolia	10	26,8%	25,9%	33,0%	24,1%
Montenegro	6	18,0%	19,1%	21,7%	9,8%
Morocco	17	12,9%	13,2%	13,2%	12,1%
Mozambique	13	25,9%	26,9%	28,0%	20,0%
Netherlands	61	8,3%	8,3%	10,5%	6,1%
New Zealand	12	10,9%	10,7%	12,4%	9,5%
Nigeria	11	29,1%	31,2%	32,7%	17,0%
Norway	30	8,7%	8,8%	10,5%	6,1%
Pakistan	11	32,0%	34,6%	36,3%	21,5%
Panama	10	15,4%	14,8%	20,0%	13,4%
Peru	21	14,9%	14,3%	22,6%	11,0%
Phillipines	13	13,4%	13,8%	15,1%	11,5%
Poland	33	10,1%	10,5%	13,8%	6,1%
Portugal	46	9,1%	9,0%	11,6%	5,8%
Qatar	9	11,4%	10,4%	18,0%	9,6%
Romania	32	13,8%	14,4%	17,5%	8,5%
Nrth Macedonia	6	17,0%	17,2%	18,4%	15,5%
Russia	19	21,6%	19,6%	29,4%	16,1%
Saudi Arabia	22	12,3%	11,2%	22,0%	9,1%
Serbia	18	11,1%	9,3%	19,1%	6,1%
Singapore	21	8,3%	8,2%	9,0%	7,7%
Slovakia	21	8,8%	8,8%	11,1%	3,4%
Slovenia	18	9,0%	8,9%	11,8%	6,1%
South Africa	33	18,6%	18,1%	25,0%	15,5%
Sri Lanka	7	36,1%	36,0%	38,2%	34,8%
Sweden	55	8,3%	8,1%	10,5%	6,1%
Switzerland	61	7,5%	7,6%	10,5%	5,0%
Taiwan	28	7,3%	7,5%	10,2%	4,5%

Tanzania	7	23,2%	23,0%	24,0%	22,6%
Thailand	13	10,4%	10,4%	11,3%	9,5%
Trinidad and Tobago	7	14,9%	15,2%	15,4%	14,0%
Tunisia	8	29,7%	30,1%	33,0%	25,8%
Turkey	13	35,1%	34,5%	42,5%	28,0%
Uganda	6	27,5%	27,1%	29,7%	26,1%
Ukraine	10	35,7%	34,1%	43,3%	30,3%
United Arab Emirates (UAE)	13	10,7%	10,0%	18,0%	6,5%
United Kingdom	82	9,7%	9,8%	12,5%	6,0%
Uruguay	9	16,0%	17,0%	21,0%	11,6%
Venezuela	9	50,9%	54,1%	57,0%	34,0%
Vietnam	10	12,8%	12,5%	15,2%	11,0%
Zambia	8	49,3%	49,4%	53,2%	44,4%

## 2. Changes from 2015 to 2018, 2019, 2020, 2021, 2022 and 2023

Tables 5 and 6 compare the results of the 2023 survey with the results of the surveys published in 2015, 2018, 2019, 2020, 2021 and 2022.

**Table 5. Km [Required return to equity (market): RF + MRP]  
 Averages of the surveys of 2023, 2022, 2021, 2020, 2019, 2018 and 2015**

	average Km (RF + MRP)						
	2023	2022	2021	2020	2019	2018	2015
USA	9,5	8,3	7,3	7,5	8,3	8,2	7,9
Spain	10,1	8,8	7,4	7,6	8,1	8,8	8,1
Argentina	57,7	58,3	41,6	29,6	25,0	23,2	35,5
Australia	10,0	9,7	9,0	10,3	9,3	9,7	9,1
Austria	9,5	7,6	6,5	7,1	7,4	8,2	8,5
Belgium	10,2	7,2	6,5	7,1	7,4	7,8	6,8
Brazil	21,5	20,1	14,2	12,7	15,4	15,7	16,5
Canada	9,5	8,5	7,5	7,5	8,3	8,7	8,2
Chile	11,8	13,1	10,2	10,2	10,5	10,2	10,4
China	12,8	12,6	9,0	9,8	11,5	10,1	12,6
Colombia	20,6	16,5	13,8	14,5	13,9	15,4	12,1
Czech Rep.	10,9	10,1	7,8	8,2	8,7	8,5	7,4
Denmark	9,0	7,2	6,5	7,0	7,2	7,6	6,8
Finland	9,4	7,0	6,5	7,5	7,3	7,6	6,9
France	9,0	7,6	6,6	7,0	7,2	7,5	7,1
Germany	8,2	6,9	6,4	6,6	6,8	6,7	6,6
Greece	15,0	8,2	7,8	19,1	19,7	20,6	29,3
Hungary	16,7	11,6	10,4	10,5	11,9	11,5	9,4
India	15,5	12,5	12,9	11,8	14,8	14,7	15,8
Indonesia	14,9	13,2	12,9	13,9	16,2	15,6	16,4
Ireland	9,6	7,3	6,6	7,9	7,4	8,1	6,8
Israel	10,8	8,7	6,8	7,8	8,4	7,7	6,1
Italy	11,1	7,7	7,0	7,5	7,9	8,4	6,9
Japan	7,1	6,4	5,7	7,1	7,2	6,0	6,5
Korea (South)	9,3	9,7	8,3	8,1	9,1	8,8	8,5
Mexico	16,0	14,8	12,2	13,7	15,4	15,3	12,3
Netherlands	8,7	7,5	6,7	7,5	7,3	7,5	7,7
New Zealand	10,9	9,5	8,0	8,6	8,9	8,9	9,5
Norway	9,2	7,5	7,2	7,0	7,4	8,1	6,9
Peru	14,9	13,3	11,1	10,7	13,1	12,6	11,2
Poland	13,4	9,7	8,2	9,0	9,7	9,4	7,9
Portugal	11,6	7,8	8,2	8,7	10,1	10,4	7,3

Russia	27,6	20,0	13,8	13,7	16,8	16,5	17,1
South Africa	18,1	16,4	15,1	14,6	16,4	14,5	15,9
Sweden	7,5	7,4	8,4	7,1	7,4	8,9	6,5
Switzerland	7,4	7,2	5,3	7,0	7,3	8,0	6,5
Thailand	11,1	10,1	9,5	10,2	11,3	12,4	16,0
Turkey	32,7	33,6	27,2	21,2	20,8	18,0	17,1
UK	9,8	8,5	6,9	6,9	8,3	7,5	7,3
Uruguay	17,7	12,7	11,3	15,2	12,8	13,6	10,7
Venezuela	64,3	58,8	60,2	34,5	36,3	28,6	23,1

**Table 6. Market Risk Premium (MRP) and Risk Free Rate (RF) (%)**  
**Averages of the surveys of 2023, 2022, 2021, 2020, 2019, 2018 and 2015**

	Av. 2023		Av. 2022		Av. 2021		Av. 2020		Av. 2019		Av. 2018		Av. 2015	
	RF	MRP	RF	MRP	RF	MRP	RF	MRP	RF	MRP	RF	MRP	RF	MRP
USA	3,8	5,7	2,7	5,6	1,8	5,5	1,9	5,6	2,7	5,6	2,8	5,4	2,4	5,5
Spain	3,5	6,6	2,1	6,7	1,0	6,4	1,3	6,3	1,7	6,4	2,1	6,7	2,2	5,9
Argentina	29,6	28,1	28,4	29,9	24,2	17,4	12,3	17,3	10,1	14,9	9,3	13,9	12,6	22,9
Australia	3,8	6,2	3,4	6,3	2,6	6,4	2,4	7,9	2,8	6,5	3,1	6,6	3,1	6,0
Austria	2,7	6,8	1,8	5,8	0,6	5,9	0,9	6,2	1,3	6,1	2,0	6,2	2,8	5,7
Belgium	3,8	6,4	1,4	5,8	0,6	5,9	0,9	6,2	1,2	6,2	1,6	6,2	1,3	5,5
Brazil	12,2	9,3	10,3	9,8	6,5	7,7	4,8	7,9	7,2	8,2	7,3	8,4	9,0	7,5
Canada	3,5	6,0	2,8	5,7	1,9	5,6	1,8	5,7	2,5	5,8	2,9	5,8	2,3	5,9
Chile	4,9	6,9	5,7	7,4	3,9	6,3	3,6	6,6	4,2	6,3	4,1	6,1	3,9	6,5
China	4,2	8,6	3,9	8,7	2,8	6,2	3,1	6,7	4,0	7,5	3,8	6,3	4,5	8,1
Colombia	11,6	9,0	9,8	6,7	6,9	6,9	6,3	8,2	6,2	7,7	6,7	8,7	3,8	8,3
Czech Rep.	4,3	6,6	4,1	6,0	2,0	5,8	1,8	6,4	2,4	6,3	2,6	5,9	1,8	5,6
Denmark	2,9	6,2	1,4	5,8	0,7	5,8	0,9	6,1	1,2	6,0	1,6	6,0	1,3	5,5
Finland	3,2	6,2	1,4	5,6	0,6	5,9	1,0	6,5	1,1	6,2	1,7	5,9	1,2	5,7
France	3,0	6,0	1,3	6,3	0,8	5,8	0,8	6,2	1,2	6,0	1,6	5,9	1,5	5,6
Germany	2,5	5,7	1,2	5,7	0,6	5,8	0,8	5,8	1,1	5,7	1,4	5,3	1,3	5,3
Greece	4,1	10,9	1,6	6,6	0,9	6,9	6,4	12,7	4,3	15,4	4,8	15,8	15,0	14,3
Hungary	8,3	8,4	4,9	6,7	3,3	7,1	3,1	7,4	4,0	7,9	3,6	7,9	0,6	8,8
India	7,1	8,5	5,6	6,9	5,6	7,3	4,8	7,0	6,5	8,3	6,8	7,9	7,4	8,4
Indonesia	6,9	8,0	5,5	7,7	5,9	7,0	6,3	7,6	7,2	9,0	6,8	8,8	7,5	8,9
Ireland	2,9	6,7	1,5	5,8	0,7	5,9	1,3	6,6	1,4	6,0	1,6	6,5	1,3	5,5
Israel	3,9	6,9	2,7	6,0	1,1	5,7	1,5	6,3	2,0	6,4	1,9	5,8	0,9	5,2
Italy	4,0	7,1	1,7	6,0	1,0	6,0	1,3	6,2	1,6	6,3	2,3	6,1	1,5	5,4
Japan	1,1	6,1	0,5	5,9	0,5	5,2	0,9	6,2	1,1	6,1	0,3	5,7	0,7	5,8
Korea (South)	2,9	6,4	3,7	6,0	2,4	5,9	2,0	6,1	2,5	6,6	2,4	6,4	2,3	6,2
Mexico	8,3	7,7	7,4	7,4	5,8	6,4	5,4	8,3	7,1	8,3	6,8	8,5	4,3	8,0
Netherlands	3,0	5,6	1,3	6,2	0,9	5,8	1,6	5,9	1,3	6,0	1,7	5,8	1,8	5,9
New Zealand	4,7	6,3	3,8	5,7	2,0	6,0	2,4	6,2	3,0	5,9	3,1	5,8	2,9	6,6
Norway	3,4	5,8	1,7	5,8	1,8	5,4	1,2	5,8	1,4	6,0	2,4	5,7	1,4	5,5
Peru	6,5	8,4	6,4	6,9	4,3	6,8	3,7	7,0	5,6	7,5	5,3	7,3	4,0	7,2
Poland	6,1	7,2	4,0	5,7	2,7	5,5	2,4	6,6	3,1	6,6	3,4	6,0	2,7	5,2
Portugal	3,4	8,2	1,6	6,2	1,4	6,8	1,6	7,1	2,6	7,5	3,2	7,2	1,6	5,7
Russia	9,4	18,2	5,8	14,2	5,7	8,1	5,9	7,8	8,3	8,5	7,8	8,7	7,4	9,7
South Africa	9,4	8,7	9,1	7,3	8,1	7,0	6,7	7,9	8,0	8,4	7,6	6,9	8,2	7,7
Sweden	1,9	5,7	1,4	6,0	0,9	7,5	1,0	6,1	1,3	6,1	1,8	7,1	1,1	5,4
Switzerland	1,7	5,6	1,4	5,8	0,1	5,2	0,9	6,1	1,1	6,2	1,1	6,9	1,1	5,4
Thailand	3,0	8,1	3,1	7,0	2,2	7,3	4,5	5,7	3,1	8,2	3,5	8,9	8,7	7,3
Turkey	14,4	18,3	22,6	11,0	17,7	9,5	10,9	10,3	11,2	9,6	10,3	7,7	7,8	9,3
UK	3,9	6,0	2,4	6,1	1,3	5,6	1,1	5,8	2,1	6,2	2,0	5,5	2,1	5,2
Uruguay	8,3	9,3	5,4	7,3	4,2	7,1	6,1	9,1	4,4	8,4	5,3	8,3	3,6	7,1
Venezuela	34,8	29,5	32,7	26,1	40,4	19,8	11,4	23,1	12,6	23,7	11,7	16,9	3,5	19,6

### 3. Previous surveys

2008	<a href="http://ssrn.com/abstract=1344209">http://ssrn.com/abstract=1344209</a>
2010	<a href="http://ssrn.com/abstract=1606563">http://ssrn.com/abstract=1606563</a> ; <a href="http://ssrn.com/abstract=1609563">http://ssrn.com/abstract=1609563</a>
2011	<a href="http://ssrn.com/abstract=1822182">http://ssrn.com/abstract=1822182</a> ; <a href="http://ssrn.com/abstract=1805852">http://ssrn.com/abstract=1805852</a>

2012	<a href="http://ssrn.com/abstract=2084213">http://ssrn.com/abstract=2084213</a>
2013	<a href="http://ssrn.com/abstract=914160">http://ssrn.com/abstract=914160</a>
2014	<a href="http://ssrn.com/abstract=1609563">http://ssrn.com/abstract=1609563</a>
2015	<a href="https://ssrn.com/abstract=2598104">https://ssrn.com/abstract=2598104</a>
2016	<a href="https://ssrn.com/abstract=2776636">https://ssrn.com/abstract=2776636</a>
2017	<a href="https://ssrn.com/abstract=2954142">https://ssrn.com/abstract=2954142</a>
2018	<a href="https://ssrn.com/abstract=3155709">https://ssrn.com/abstract=3155709</a>
2019	<a href="https://ssrn.com/abstract=3358901">https://ssrn.com/abstract=3358901</a>
2020	<a href="https://ssrn.com/abstract=3560869">https://ssrn.com/abstract=3560869</a>
2021	<a href="https://ssrn.com/abstract=3861152">https://ssrn.com/abstract=3861152</a>
2022	<a href="https://ssrn.com/abstract=3803990">https://ssrn.com/abstract=3803990</a>
2023	<a href="https://ssrn.com/abstract=4407839">https://ssrn.com/abstract=4407839</a>

Welch (2000) performed two surveys with finance professors in 1997 and 1998, asking them what they thought the Expected MRP would be over the next 30 years. He obtained 226 replies, ranging from 1% to 15%, with an average arithmetic EEP of 7% above T-Bonds.<sup>3</sup> Welch (2001) presented the results of a survey of 510 finance and economics professors performed in August 2001 and the consensus for the 30-year arithmetic EEP was 5.5%, much lower than just 3 years earlier. In an update published in 2008 Welch reports that the MRP “used in class” in December 2007 by about 400 finance professors was on average 5.89%, and 90% of the professors used equity premiums between 4% and 8.5%.

Johnson et al (2007) report the results of a survey of 116 finance professors in North America done in March 2007: 90% of the professors believed the Expected MRP during the next 30 years to range from 3% to 7%.

Graham and Harvey (2007) indicate that U.S. CFOs reduced their average EEP from 4.65% in September 2000 to 2.93% by September 2006 (st. dev. of the 465 responses = 2.47%). In the 2008 survey, they report an average EEP of 3.80%, ranging from 3.1% to 11.5% at the tenth percentile at each end of the spectrum. They show that average EEP changes through time. Goldman Sachs (O’Neill, Wilson and Masih 2002) conducted a survey of its global clients in July 2002 and the average long-run EEP was 3.9%, with most responses between 3.5% and 4.5%.

Ilmanen (2003) argues that surveys tend to be optimistic: “*survey-based expected returns may tell us more about hoped-for returns than about required returns*”. Damodaran (2008) points out that “*the risk premiums in academic surveys indicate how far removed most academics are from the real world of valuation and corporate finance and how much of their own thinking is framed by the historical risk premiums... The risk premiums that are presented in classroom settings are not only much higher than the risk premiums in practice but also contradict other academic research*”.

Table 4 of Fernandez et al (2011a) shows the evolution of the Market Risk Premium used for the USA in 2011, 2010, 2009 and 2008 according to previous surveys (Fernandez et al, 2009, 2010a and 2010b).

The magazine *Pensions and Investments* (12/1/1998) carried out a survey among professionals working for institutional investors: the average EEP was 3%. Shiller<sup>4</sup> publishes and updates an index of investor sentiment since the crash of 1987. While neither survey provides a direct measure of the equity risk premium, they yield a broad measure of where investors or professors expect stock prices to go in the near future. The 2004 survey of the Securities Industry Association (SIA) found that the median EEP of 1500 U.S. investors was about 8.3%. Merrill Lynch surveys more than 300 institutional investors globally in July 2008: the average EEP was 3.5%.

A main difference of this survey with previous ones is that this survey asks about the **Required** MRP, while most surveys are interested in the **Expected** MRP.

<sup>3</sup> At that time, the most recent Ibbotson Associates Yearbook reported an arithmetic HEP versus T-bills of 8.9% (1926–1997).

<sup>4</sup> See <http://icf.som.yale.edu/Confidence.Index>

#### 4. Expected and Required Equity Premium: different concepts

Fernandez and F. Acín (2015) claim and show that Expected Return and Required Return are two very different concepts. Fernandez (2007, 2009b) claims that the term “equity premium” is used to designate four different concepts:

1. **Historical** equity premium (HEP): historical differential return of the stock market over treasuries.
2. **Expected** equity premium (EEP): expected differential return of the stock market over treasuries.
3. **Required** equity premium (REP): incremental return of a diversified portfolio (the market) over the risk-free rate required by an investor. It is used for calculating the required return to equity.
4. **Implied** equity premium (IEP): the required equity premium that arises from assuming that the market price is correct.

The four concepts (HEP, REP, EEP and IEP) designate different realities. The **HEP** is easy to calculate and is equal for all investors, provided they use the same time frame, the same market index, the same risk-free instrument and the same average (arithmetic or geometric). But the **EEP**, the **REP** and the **IEP** may be different for different investors and are not observable.

The **HEP** is the historical average differential return of the market portfolio over the risk-free debt. The most widely cited sources are Ibbotson Associates and Dimson *et al.* (2007).

Numerous papers and books assert or imply that there is a “market” EEP. However, it is obvious that investors and professors do not share “homogeneous expectations” and have different assessments of the **EEP**. As Brealey *et al.* (2005, page 154) affirm, “*Do not trust anyone who claims to know what returns investors expect*”.

The **REP** is the answer to the following question: What incremental return do I require for investing in a diversified portfolio of shares over the risk-free rate? It is a crucial parameter because the REP is the key to determining the company’s required return to equity and the WACC. Different companies may use, and in fact do use, different **REPs**.

The **IEP** is the implicit REP used in the valuation of a stock (or market index) that matches the current market price. The most widely used model to calculate the IEP is the dividend discount model: the current price per share ( $P_0$ ) is the present value of expected dividends discounted at the required rate of return ( $K_e$ ). If  $d_1$  is the dividend per share expected to be received in year 1, and  $g$  the expected long term growth rate in dividends per share,

$$P_0 = d_1 / (K_e - g), \text{ which implies: } IEP = d_1/P_0 + g - R_f \quad (1)$$

The estimates of the IEP depend on the particular assumption made for the expected growth ( $g$ ). Even if market prices are correct for all investors, there is not an IEP common for all investors: there are many pairs (IEP,  $g$ ) that accomplish equation (1). Even if equation (1) holds for every investor, there are many *required* returns (as many as expected growths,  $g$ ) in the market. Many papers in the financial literature report different estimates of the IEP with great dispersion, as for example, Claus and Thomas (2001, IEP = 3%), Harris and Marston (2001, IEP = 7.14%) and Ritter and Warr (2002, IEP = 12% in 1980 and -2% in 1999). There is no a common **IEP** for all investors.

For a particular investor, the **EEP** is not necessary equal to the REP (unless he considers that the market price is equal to the value of the shares). Obviously, an investor will hold a diversified portfolio of shares if his EEP is higher (or equal) than his REP and will not hold it otherwise.

We can find out the REP and the EEP of an investor by asking him, although for many investors the REP is not an explicit parameter but, rather, it is implicit in the price they are prepared to pay for the shares. However, it is not possible to determine the REP for the market as a whole, because it does not exist: even if we knew the REPs of all the investors in the market, it would be meaningless to talk of a REP for the market as a whole. There is a distribution of REPs and we can only say that some percentage of investors have REPs contained in a range. The average of that distribution cannot be interpreted as the REP of the market nor as the REP of a representative investor.

Much confusion arises from not distinguishing among the four concepts that the phrase *equity premium* designates: Historical equity premium, Expected equity premium, Required equity premium and Implied equity premium. 129 of the books reviewed by Fernandez (2009b) identify

Expected and Required equity premium and 82 books identify Expected and Historical equity premium.

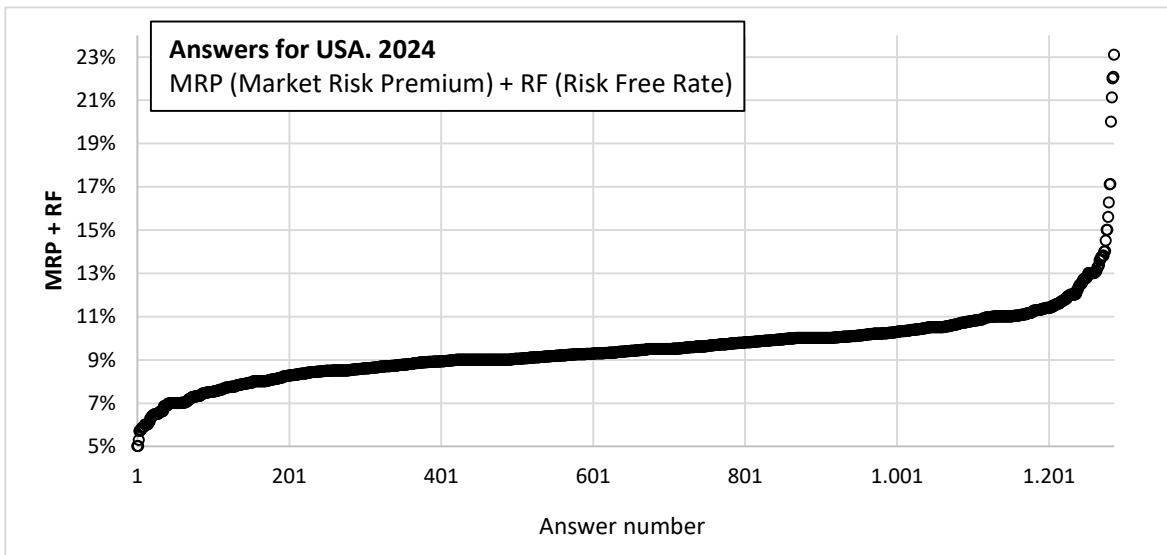
Finance textbooks should clarify the MRP by incorporating distinguishing definitions of the four different concepts and conveying a clearer message about their sensible magnitudes.

### 5. Conclusion

Most previous surveys have been interested in the Expected MRP, but this survey asks about the Required MRP.

This paper contains the statistics of a survey about the Risk-Free Rate (**Rf**) and the Market Risk Premium (**MRP**) used in 2024 for **96 countries**. We got answers for 104 countries, but we only report the results for countries with more than 6 answers.

This survey links with the *Equity Premium Puzzle*: Fernandez et al (2009), argue that the equity premium puzzle may be explained by the fact that many market participants (equity investors, investment banks, analysts, companies...) do not use standard theory (such as a standard representative consumer asset pricing model...) for determining their Required Equity Premium, but rather, they use historical data and advice from textbooks and finance professors. Many investors still use historical data and textbook prescriptions to estimate the required and the expected equity premium.



## EXHIBIT 1. Mail sent in February 2024

### Survey Market Risk Premium and Risk-Free Rate 2024

We are doing a **survey** about the **Market Risk Premium** (MRP or Equity Premium) and **Risk-Free Rate** that companies, analysts, regulators and professors use to calculate the **required return on equity** in different countries.

I would be grateful if you would kindly answer the following 2 questions. No companies, individuals or universities will be identified, and only aggregate data will be made public. I will send you the results in a month.

Best regards and thanks,

*Pablo Fernandez, Professor of Finance. IESE Business School. Spain.*

#### 2 questions:

1. The Market Risk Premium that I am using in 2024

for USA is: \_\_\_\_\_%

for \_\_\_\_\_ is: \_\_\_\_\_%

for \_\_\_\_\_ is: \_\_\_\_\_%

2. The Risk-Free rate that I am using in 2024

for USA is: \_\_\_\_\_%

for \_\_\_\_\_ is: \_\_\_\_\_%

for \_\_\_\_\_ is: \_\_\_\_\_%

## EXHIBIT 2. Some comments and webs recommended by respondents.

**Equity premium:** [http://pages.stern.nyu.edu/~adamodar/New\\_Home\\_Page/datafile/ctryprem.html](http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html)  
<http://www.market-risk-premia.com/market-risk-premia.html>  
<http://www.marktrisikoprämie.de/marktrisikopraemien.html>

**US risk free rate:** <http://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yieldYear&year=2015>

**risk free rate:** <http://www.basiszinssatz.de/basiszinssatz-gemaess-idw.html>  
<http://www.econ.yale.edu/~shiller/>  
<http://www.cfosurvey.org/pastresults.htm>  
<http://alephblog.com/>

I'm not much use for you because I don't add a market risk premium to a risk free rate to get a basic equity rate of return. Many years ago, I took your lessons to heart and stopped using any sort of build-up method, principally because it is backwards looking. Instead, I rely on the Pepperdine survey, along with my understanding of how investors think and my best judgement of the risks of a particular asset. I have not found any better way to do this.

Islamic Development Bank works under development mandate and therefore does not follow market based premium on pricing, and uses its internal costs as benchmark. In short, all of our member countries are given financing at the same pricing.

Our commercial bank can invest overnight funds in our excess balance account with the U.S. Federal Reserve Bank at 2.5%. Our overall cost of funds is 0.2%, yielding a spread of 2.3%. Our leverage ratio (equity/assets) is 9.63%. Hence, our pre-tax risk-free rate is 23.88% of equity. Our target is to earn a net interest margin (interest income less interest expense as a percentage of earning assets) of 4.00%, which yields a targeted asset yield of 4.2%, or 43.61% of equity.

Market risk premium = actual equity return - risk free rate

I want to explain the unusually high risk premium I am using in the US market (7%). In my opinion, the way that costs whether they be raw materials, labor, interest etc. process through the economy differently than a simple "add on" cost. I believe that as any cost increase requires a greater capital base to hold inventory or to produce goods and services, that the pass through is not just the actual cost but the cost plus an increment for a return on the greater capital base. Accordingly, the "cost" of money with interest rates so low is more likely than not to be higher in the future. Labor also with unemployment so low is more likely than not to be higher in the future. Therefore although I do not see traditional commodity inflation and labor costs have been unusually stable for this unemployment level, I believe the probability is higher of an increase than a decrease. Thus I have a higher than would be expected market risk premium to address the direction I think the pressures will move on the discount rate. Conversely, If wrong on the upward pressures on capital

returns; it would likely be due to slowing global growth and/or trade disruption of longer duration. In that event I again want a higher discount rate to reflect that greater risk potential. Interesting times we live in.

I do not use a MRP or a RF rate for three reasons:

- 1) I am retired.
- 2) I do not accept their validity.
- 3) The "new normal" makes no economic or financial sense.

I am an academic in a public university – I don't know of any University discount rate.

"The subject who is truly loyal to the Chief Magistrate will neither advise nor submit to arbitrary measures." Junius

Prima de riesgo que utilizo en España: diferencia de rentabilidad que ofrece el bono español respecto al alemán. Tipos de interés sin riesgo: los extraídos día a día del boletín de deuda pública española en operaciones de compra-venta al contado.

I don't value companies on this basis. I prefer to use price to earnings ratio.

In the Netherlands there is a discussion with the fiscal authorities. A lot of valuation experts use the MRP from your Survey. The Fiscal authorities accept that but want consequently also the use of the Rf from your survey. There is a lot of discussion when we use a normalized adjusted Rf.

Por tipo de interés sin riesgo se entiende en el corto plazo, pe 3 meses, al tipo de interés interbancario al plazo correspondiente para el área de referencia. En caso del euro, sería el EURIBOR y en caso de EEUU el Libor USD. Hablando de riesgo soberano USA y Alemania son considerados Benchmarks, por lo que su prima de riesgo es 0 y por tanto se les considera que son libres de riesgo. (Excepto entre ellos cuando se habla de riesgo entre EUR y USD) Por ello, cuando hablamos de prima de riesgo de un país, pe. España, hablamos del diferencial de tipos que hay el bono español con el de Alemania, tomando el mismo plazo. Normalmente se utiliza el plazo estándar del 10 años.

Sigo las recomendaciones de Credit Swiss Global Investment Return Yearbook, en este caso, 2018, con un 3,5% de PRM. No me gustan las recomendaciones de Damodaran, cuando incluye un riesgo país a España mayor que el de, creo, Perú o Ecuador, El tipo de interés sin riesgo que utilizo es, para España, el de el bono alemán a 10 años, según leo es de 0,17%, aunque Credit Swiss, creo recordar utiliza otro...el de EEUU es de 2,73%.

The risk free rate is determined on the historical present value-equivalent base interest rates on the basis of a series of payments increasing with the selected growth rate over a period of 1,000 years. For the calculations, the spot rate from year 30 to year 1,000 is updated constantly based upon the valuation date.

#### Germany

Risk free rate	0.9%	20 y Bund	Investing.com/rates-bonds/germany-20-year-bond-yield (1-1-2018)
Adjustment	1.8%	Credit Suisse	Credit Suisse Global Investment Source book and Yield book 2016 – Range of estimated long term real rate government bonds 1900-2015 - globally diversified
<b>Risk free rate Adjusted</b>	<b>2.7%</b>		

I don't use the market risk premium. I use a hurdle rate of return and won't invest in investments that don't achieve that hurdle. I aspire to a 25% rate of return on my investments but will generally settle for 15%.

I use the relevant rate from each country/currency "risk-free" yield curve to discount the respective expected future cash flow:  $V_0 = CF_1/(1 + Rf_1 + risk\ prem)^1 + CF_2/(1 + Rf_2 + risk\ prem)^2 + \dots + CF_t/(1 + Rf_t + risk\ prem)^t$

The Rf that I am using in 2019 for USA is: 10 year historical average, US Treasuries 20-year notes.

I use the US Equity premium of Damodaran to avoid explanations or justifications to clients.

We only use ROS (Return on Sales).

Rf: 3%, of which 2% is a premium for the risk of manipulation of the interest rate market operated by the ECB with the Quantitative Easing.

Al tener limitación nacional al hacer inversiones, debemos emplear un tipo de interés sin riesgo alto. Al operar en mercados muy consolidados, con pocos operadores y con fuertes barreras de entrada, la prima de riesgo de mercado es muy alta.



En anteriores encuestas intenté ofreceros un tipo orientativo pero estos últimos años, después de la “experimentación” de tipos, de diferentes QE con tipos negativos... sólo tengo una certeza, que ya hemos comentado en muchas ocasiones: es muy difícil, o de dudosa utilidad, establecer un tipo de interés sin riesgo. Porque ¿Es normal que la Deuda Griega pague menos que la Deuda de USA? ¿Emisiones de Deuda del gobierno argentino a periodos larguísimos? ¿Deuda alemana o suiza en tipos negativos?...

Respecto a establecer una tasa que sirva como referencia, mantendría dos premisas: 1) El horizonte de inversión (una Tasa de referencia con el mismo plazo); 2) La seguridad en las estimaciones de los flujos de caja futuros del proyecto o inversión: en caso de menor confianza o duda en las estimaciones, mayor tasa de Descuento

Como norma, siempre tenemos en cuenta que la Renta variable ha sido en periodos muy largos el activo más rentable y, por tanto, a muy largo plazo es el Activo de “Menor riesgo”

Fascinating results. It is always interesting how investors and fund managers interpret the risk free rate of countries who have a negative prevailing long-term bond rate.

I am sure you that you are analysing the data and asking more questions that data can answer. It's time to improve theory! I hope you will advance on it.

In my DCF valuation I use a global perspective of the marginal investor hence a global MRP.

I match rf with currency/inflation of cash flows being discounted and do not rely too much on current interest rates due to imperfections in the market. The MRP is made consistent with the level of interest rate I use in my model (E(Rm)-Rf) end end up with 6%

For equities we use a 10% as a cost of opportunity independently of the level of interest.

Rf: average last 5-year 10 year Treasury

I would like to help you with these two questions, but the problem is that in no any literature sources or analytical reports I met the calculation of Market Risk Premium and Risk Free rate for Uzbekistan.

The risk free rate that I use depends upon the timing of the future cash flows. I refer to the interest rate swap market and the US treasury market for starters. These days, one has to bear in mind currency volatility as that has a bigger effect on PV than market cost-of-capital.

We use the same Market Risk Premium for any country: 5,75% (source: Damodaran). Only Rf changes.

I am happy that you are asking the second question, because it accounts for what I consider to be a historical anomaly in the reply to the first question. I've concluded that the ERP was recently 3-4 percent. But I think US monetary policy (the various "QE" programs) have in the past couple of years distorted the traditional relationship between expected total market returns and the risk free rate. QE has been driving the US Treasury rate down, while the expected total market return has held steady, leading to a larger than usual market risk premium. This higher market risk premium is not a sign of higher market equity risk, but of the perverse impact of aggressive monetary policy.

For the US in 2015: MRP: 14% (as US equities are even more highly priced than last year).

Interest rates are artificially well below historic levels. Thus, bonds and equities values are artificially inflated.

I do not use "canned" rates applicable for a whole year. The rates I use are time-specific and case-specific, depending on conditions prevailing as of the valuation date.

I must confess I am still surprised with the rates suggested that are at the upper bound of respondent answers.

One hint: It might make sense to ask more precisely about the premium before/after personal income tax. For Germany the premium would differ and I am not sure how people would interpret the question.

The Risk-Free Rate we use is based on rates published by the Federal Reserve. We use the 20 year rate, currently 2.73%. The Equity Risk Premium we use is based on Duff & Phelps Annual Valuation Handbook.

For foreign countries, I generally look at it in dollar terms and assume that purchasing power parity held; hence, I'd use US rates. If I had to do it in a foreign currency, I would use the local 10-year treasury for the risk-free rate. I would use the US equity risk premium, adjust for inflation to real terms, and then adjust for foreign inflation to put it in local nominal terms.

USA. MRP 6.4% - essentially bloomberg/ibbotson number. RF 10 year U.S. treasury yield.

Exijo un mínimo de un 15% de retorno neto de impuestos a cualquier acción, independientemente de su nacionalidad.

No existe un activo libre de riesgo en absoluto. Y menos en estos distorsionados entornos debido a la intervención de los bancos centrales. En mi modesta opinión, creo que nunca sido tan riesgosa la renta fija como lo es ahora.

No creo especialmente en el modelo de CAPM y prefiero usar una cifra basada en el sentido común.

Market Risk Premium for any market is not salubrious for peace or mind.

[https://comcom.govt.nz/\\_data/assets/pdf\\_file/0029/282674/5B20225D-NZCC-12-Cost-of-capital-determination-EDBs-and-WIAL-3-May-2022.pdf](https://comcom.govt.nz/_data/assets/pdf_file/0029/282674/5B20225D-NZCC-12-Cost-of-capital-determination-EDBs-and-WIAL-3-May-2022.pdf).

<https://indialogue.io/clients/reports/public/5d9da61986db2894649a7ef2/5d9da63386db2894649a7ef5>

The CAPM is wrongly derived from very beginning (basically, CAPM is the first order condition for optimal portfolio decision (which must have a unique solution of mean-variance efficient portfolio) with its unique solution of market portfolio. CAPM is, of course, a tautology even the market portfolio is mean-variance efficient, not an asset pricing no matter market portfolio is mean-variance efficient or no. In sum, CAPM is theoretical useless.

En Uruguay la práctica más aceptada es descontar flujos convertidos a USD dada la debilidad de la moneda local y dolarización de la economía.

Your research over the years has been enlightening. It would be interesting to see the "meta" research on your data, that is, an analysis of the cross-section / time series to determine if there is any information embedded in the disperse responses that you receive, e.g. for forecasting or determining whether the consensus is correct over time.

I am guessing you already know my answers:

1. I do not use CAPM, the build-up-method or similar strategies to figure out required rates of return, and I pay no attention to the so-called "Market Risk Premium". Instead I rely mostly on the Pepperdine Cost of Capital Survey in my work.
2. I acknowledge current and changing U.S. Treasury bond rates because it's probably true they have some effect on investors' Required Rates of Return. But I don't use any specific number at any given time so I don't have an answer to your second question either.

We use a WACC of 8.0% for our pan-European industrial coverage, including UK, CH. We are not explicitly modeling  $R_f$ , beta or premium.

I just wanted to thank you for your annual surveys. I work in the intersection between academic theory and economic policy, and your annual surveys provide me with an excellent tool for explaining the market environment for debt-financed government spending. I am especially pleased with the opportunity that your survey provides, to point to the risk-free rates in relation to where par yields are on treasury debt, trends in inflation-adjusted securities and government bond rating.

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**Cause No. 46120**  
**Northern Indiana Public Service Company LLC's**  
**Objections and Responses to**

**Indiana Office of Utility Consumer Counselor's Second Set of Data Requests**

**OUCR Request 2-032:**

For the portion of Petitioner's pension funds that are invested in equities, please provide the rate of return NiSource and NIPSCO assume the pension funds will earn. Please explain in detail why that rate of return was used. Please provide any supporting documentation Petitioner used to determine what rate of return NiSource and NIPSCO assume the pension funds will earn. If already provided, please indicate the testimony, attachments, workpapers, or MSFRs where the referenced items are located.

**Objections:**

NIPSCO objects to this Request on the grounds and to the extent that this Request seeks information that is confidential, proprietary and/or trade secret.

**Response:**

Subject to and without waiver of the foregoing general and specific objections, NIPSCO is providing the following response:

NiSource utilizes forward looking returns from its Actuary and Investment Consultant. These returns utilize historical and forward looking relationships between inflation, interest rates, GDP growth, valuations and equity return premiums. Supporting documentation is attached as OUCR Request 2-032 Attachment A and OUCR Request 2-032 Confidential Attachment B.

Actuary		Investment Consultant	
Asset Class	EROA	Asset Class	EROA
US Equities Large Cap	9.69%	US Equities Large Cap	9.25%
US Equities Small Cap	11.00%	US Equities Small Cap	9.50%
Non-US Equities	9.90%	Non-US Equities	8.75%
Emerging Mkts. Equities	10.48%	Emerging Mkts. Equities	10.50%

**Cause No. 46120**  
**Northern Indiana Public Service Company LLC's**  
**Objections and Responses to**  
**Indiana Office of Utility Consumer Counselor's Second Set of Data Requests**

**OUCC Request 2-034:**

For the portion of Petitioner's post-retirement benefits other than the pension plan (i.e. "OPEB") funds that are invested in equities, please provide the rate of return NiSource and NIPSCO assume its OPEB funds will earn. Please explain why that rate of return was used. Please provide any supporting documentation Petitioner used to determine what rate of return NiSource and NIPSCO assume the OPEB funds will earn. If already provided, please indicate the testimony, attachments, workpapers, or MSFRs where the referenced items are located.

**Objections:**

NIPSCO objects to this Request on the grounds and to the extent that this Request seeks information that is confidential, proprietary and/or trade secret.

**Response:**

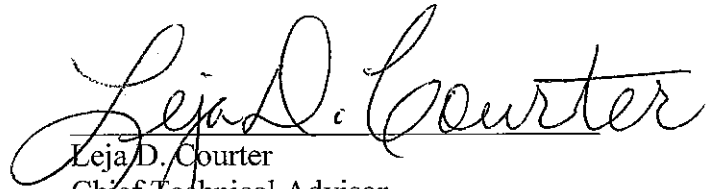
Subject to and without waiver of the foregoing general and specific objections, NIPSCO is providing the following response:

NiSource utilizes forward looking returns from our Actuary and Investment Consultant. These returns utilize historical and forward looking relationships between inflation, interest rates, GDP growth, valuations and equity return premiums. Supporting documentation is attached as OUCC Request 2-034 Attachment A and OUCC Request 2-034 Confidential Attachment B.

Actuary		Investment Consultant	
Asset Class	EROA	Asset Class	EROA
US Equities Large Cap	9.69%	US Equities Large Cap	9.25%
US Equities Small Cap	11.00%	US Equities Small Cap	9.50%
Non-US Equities	9.90%	Non-US Equities	8.75%
Emerging Mkts. Equities	10.48%	Emerging Mkts. Equities	10.50%

**AFFIRMATION**

I affirm, under the penalties for perjury, that the foregoing representations are true.

A handwritten signature in cursive script that reads "Leja D. Courter". The signature is written in black ink and is positioned above a horizontal line.

Leja D. Courter  
Chief Technical Advisor  
Indiana Office of Utility Consumer Counselor  
Cause No. 46120  
NIPSCO, LLC

Date: December 19, 2024

## CERTIFICATE OF SERVICE

This is to certify that a copy of the **Indiana Office of Utility Consumer Counselor Public's Exhibit No. 9 Testimony of OUCC Witness Leja D. Courter** has been served upon the following counsel of record in the captioned proceeding by electronic service on December 19, 2024.

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