

MISSOURI PUBLIC SERVICE COMMISSION

February 28, 2025

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Federal Reserve Discount Rate and Federal Reserve Funds Rate

Date	Federal Reserve Discount Rate	Federal Reserve Funds Rate	Date	Reserve Discount Rate	Reserve Funds Rate	Date	Federal Reserve Discount Rate	Federal Reserve Funds Rate
Jan 2001	5.52	5.50	Jan 2006	5.50	4.50	Jan 2011	0.75	0.13
Feb	5.00	5.50	Feb	5.50	4.50	Feb	0.75	0.13
Mar	4.81	5.00	Mar	5.75	4.75	Mar	0.75	0.13
Apr	4.28	4.50	Apr	5.75	4.75	Apr	0.75	0.13
Лау	3.73	4.00	May	6.00	5.00	May	0.75	0.13
lun	3.47	3.75	June	6.25	5.25	Jun	0.75	0.13
lul	3.25	3.75	July	6.25	5.25	Jul	0.75	0.13
Aug	3.16	3.50	Aug	6.25	5.25	Aug	0.75	0.13
Sep	2.77	3.00	Sep	6.25	5.25	Sep	0.75	0.13
Oct	2.02	2.50	Oct	6.25	5.25	Oct	0.75	0.13
vov	1.58	2.00	Nov	6.25	5.25	Nov	0.75	0.13
Dec	1.33	1.75	Dec	6.25	5.25	Dec	0.75	0.13
an 2002	1.25	1.75	Jan 2007	6.25	5.25	Jan 2012	0.75	0.13
eb	1.25	1.75	Feb	6.25	5.25	Feb	0.75	0.13
Mar	1.25	1.75	Mar	6.25	5.25	Mar	0.75	0.13
Apr	1.25	1.75	Apr	6.25	5.25	Apr	0.75	0.13
May	1.25	1.75	May	6.25	5.25	May	0.75	0.13
lun	1.25	1.75	Jun	6.25	5.25	Jun	0.75	0.13
lul	1.25	1.75	Jul	6.25	5.25	Jul	0.75	0.13
Aug	1.25	1.75	Aug	5.75	5.25	Aug	0.75	0.13
Sep	1.25	1.75	Sep	5.25	4.75	Sep	0.75	0.13
Dct	1.25	1.75	Oct	5.00	4.75	Oct	0.75	0.13
Nov	0.83	1.25	Nov	5.00	4.50	Nov	0.75	0.13
Dec	0.75	1.25	Dec	4.75	4.25	Dec	0.75	0.13
an 2003	2.25	1.25	Jan 2008	3.50	3.50	Jan 2013	0.75	0.13
eb	2.25	1.25	Feb	3.50	3.00	Feb	0.75	0.13
/ar	2.25	1.25	Mar	2.50	2.25	Mar	0.75	0.13
Npr								
•	2.25	1.25	Apr	2.25	2.25	Apr	0.75	0.13
/lay	2.25	1.25	May	2.25	2.00	May	0.75	0.13
un	2.00	1.25	Jun	2.25	2.00	Jun	0.75	0.13
ul	2.00	1.00	Jul	2.25	2.00	Jul	0.75	0.13
lug	2.00	1.00	Aug	2.25	2.00	Aug	0.75	0.13
Sep	2.00	1.00	Sep	2.25	2.00	Sept	0.75	0.13
Oct	2.00	1.00	Oct	1.25	1.25	Oct	0.75	0.13
Nov	2.00	1.00	Nov	1.25	1.25	Nov	0.75	0.13
Dec	2.00	1.00	Dec	0.50	0.13	Dec	0.75	0.13
Jan 2004	2.00	1.00	Jan 2009	0.50	0.13	Jan 2014	0.75	0.13
Feb	2.00	1.00	Feb	0.50	0.13	Feb	0.75	0.13
Mar	2.00	1.00	Mar	0.50	0.13	Mar	0.75	0.13
\pr	2.00	1.00	Apr	0.50	0.13	Apr	0.75	0.13
lay	2.00	1.00	May	0.50	0.13	May	0.75	0.13
un	2.25	1.00	Jun	0.50	0.13	Jun	0.75	0.13
ul	2.25	1.25	Jul	0.50	0.13	Jul	0.75	0.13
lug	2.50	1.50	Aug	0.50	0.13	Aug	0.75	0.13
Бер	2.75	1.50	Sep	0.50	0.13	Sep	0.75	0.13
Oct	2.75	1.75	Oct	0.50	0.13	Oct	0.75	0.13
lov	3.00	2.00	Nov	0.50	0.13	Nov	0.75	0.13
Dec	3.25	2.25	Dec	0.50	0.13	Dec	0.75	0.13
an 2005	3.25	2.25	Jan 2010	0.50	0.13	Jan 2015	0.75	0.13
eb	3.50	2.50	Feb	0.75	0.13	Feb	0.75	0.13
/lar	3.75	2.50	Mar	0.75	0.13	Mar	0.75	0.13
\pr	3.75	2.75	April	0.75	0.13	Apr	0.75	0.13
Лау	4.00	3.00	May	0.75	0.13	May	0.75	0.13
lun	4.25	3.00	Jun	0.75	0.13	Jun	0.75	0.13
lul	4.25	3.25	Jul	0.75	0.13	Jul	0.75	0.13
Aug	4.23	3.50	Aug	0.75	0.13	Aug	0.75	0.13
Sep	4.50	3.50	Sep	0.75	0.13	Sep	0.75	0.13
Dct	4.75	3.75	Sep Oct	0.75	0.13	Sep Oct	0.75	0.13
lov	5.00	4.00	Nov	0.75	0.13	Nov	0.75	0.13
Dec	5.25	4.25	Dec	0.75	0.13	Dec	1.00	0.38

Federal Reserve Discount Rate and Federal Reserve Funds Rate

Date	Federal Reserve Discount Rate	Federal Reserve Funds Rate	Date	Reserve Discount Rate	Reserve Funds Rate	Date	Federal Reserve Discount Rate	Federal Reserve Funds Rate
			_			Date	Discount Rate	Funds Rate
lan 2016 ⁻ eb	1.00 1.00	0.38 0.38	Jan 2021 Feb	0.25 0.25	0.09 0.08			
/ar	1.00	0.38	Mar	0.25	0.08			
Apr	1.00	0.38	Apr	0.25	0.07			
лау Лау	1.00	0.38	May	0.25	0.06			
un	1.00	0.38	Jun	0.25	0.08			
ul	1.00	0.39	Jul	0.25	0.10			
Aug	1.00	0.40	Aug	0.25	0.09			
Sep	1.00	0.40	Sep	0.25	0.08			
Dct	1.00	0.40	Oct	0.25	0.08			
lov	1.00	0.41	Nov	0.25	0.08			
Dec	1.25	0.54	Dec	0.25	0.08			
lan 2017	1.25	0.65	Jan 2022	0.25	0.08			
eb	1.25	0.66	Feb	0.25	0.08			
/lar	1.50	0.79	Mar	0.25	0.20			
Apr	1.50	0.90	Apr	0.25	0.33			
May	1.50	0.91	May	0.25	0.77			
Jun	1.75	1.04	Jun	0.25	1.21			
July	1.75	1.15	Jul	0.25	1.68			
Aug	1.75	1.16	Aug	0.25	2.33			
Sep	1.75	1.15	Sep	0.25	2.56			
Oct	1.75	1.15	Oct	0.25	3.08			
Vov	1.75	1.16	Nov	0.25	3.78			
Dec	2.00	1.30	Dec	0.25	4.10			
lan 2018	2.00	1.41	Jan 2023	0.25	4.33			
eb	2.00	1.42	Feb	0.25	4.57			
Mar	2.25	1.51	Mar	0.25	4.65			
Apr	2.25	1.69	Apr	0.25	4.83			
May	2.25	1.70	May	0.25	5.06			
Jun	2.50	1.82	Jun	0.25	5.08			
Jul	2.50	1.91	Jul	0.25	5.12			
Aug	2.50	1.91	Aug	0.25	5.33			
Sep	2.75	1.95	Sep	0.25	5.33			
Oct	2.75	2.19	Oct	0.25	5.33			
Nov	2.75	2.20	Nov	0.25	5.33			
Dec	3.00	2.27	Dec	0.25	5.33			
Jan 2019	3.00	2.40	Jan 2024	0.25	5.33			
Feb	3.00	2.40	Feb	0.25	5.33			
Mar	3.00	2.41	Mar	0.25	5.33			
Apr	3.00	2.42	Apr	0.25	5.33			
May	3.00	2.39	May	0.25	5.33			
Jun	3.00	2.38	Jun	0.25	5.33			
Jul	3.00	2.40	Jul	0.25	5.33			
Aug	2.75	2.13	Aug	0.25	5.33			
Sept	2.50	2.04	Sep	0.25	5.13			
Oct	2.25	1.83						
lov	2.25	1.55						
Dec	2.25	1.55						
lan 2020	2.25	1.55						
eb	2.25	1.58						
/lar	0.25	0.65						
\pr	0.25	0.05						
Лау	0.25	0.05						
lun	0.25	0.08						
Jul	0.25	0.09						
Aug	0.25	0.10						
Sep	0.25	0.09						
Oct	0.25	0.09						
lov	0.25	0.09						
Dec	0.25	0.09						

Federal Reserve Discount Rates and Federal Funds Rates 1980 - 2024



Rate of Inflation

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year Jan 2015	Rate (%)	Mo/Year	Rate (%
lan 1980 Feb	12.00	Jan 1987 Fob	3.80	Jan 1994 Fob	2.90	Jan 2001	2.60	Jan 2008	2.50		1.60	Jan 2022	6.00
ved Mar	12.00 12.50	Feb Mar	3.80 4.00	Feb Mar	2.80 2.90	Feb Mar	2.70 2.70	Feb Mar	2.30 2.40	Feb Mar	1.70 1.80	Feb Mar	6.40 6.50
Apr	13.00	Apr	4.20	Apr	2.80	Apr	2.60	Apr	2.30	Apr	1.80	Apr	6.20
Лау	13.30	May	4.20	May	2.80	May	2.50	May	2.30	May	1.70	May	6.00
un	13.60	Jun	4.10	Jun	2.90	Jun	2.70	Jun	2.40	Jun	1.80	Jun	5.90
ul	12.40	Jul	4.00	Jul	2.90	Jul	2.70	Jul	2.50	Jul	1.80	Jul	5.90
Aug	11.80	Aug	4.20	Aug	2.90	Aug	2.70	Aug	2.50	Aug	1.80	Aug	6.30
ер	12.00	Sep	4.30	Sep	3.00	Sep	2.60	Sep	2.50	Sep	1.90	Sep	6.60
Oct	12.30	Oct	4.30	Oct	2.90	Oct	2.60	Oct	2.20	Oct	1.90	Oct	6.30
lov Dec	12.10 12.20	Nov Dec	4.40 4.20	Nov Dec	2.80 2.60	Nov Dec	2.80 2.70	Nov Dec	2.00 1.80	Nov Dec	2.00 2.10	Nov Dec	6.00 5.70
an 1981	11.40	Jan 1988	4.30	Jan 1995	2.90	Jan 2002	2.60	Jan 2009	1.70	Jan 2016	2.20	Jan 2023	5.60
eb	10.90	Feb	4.30	Feb	3.00	Feb	2.60	Feb	1.80	Feb	2.30	Feb	5.50
Лаг	10.00	Mar	4.40	Mar	3.00	Mar	2.40	Mar	1.80	Mar	2.20	Mar	5.60
pr	9.50	Apr	4.30	Apr	3.10	Apr	2.50	Apr	1.90	Apr	2.10	Apr	5.50
/lay	9.50	May	4.30	May	3.10	May	2.50	May	1.80	May	2.20	May	5.30
un	9.40	Jun	4.50	Jun	3.00	Jun	2.30	Jun	1.70	Jun	2.20	Jun	4.80
ul	11.10	Jul	4.50	Jul	3.00	Jul	2.20	Jul	1.50	Jul	2.20	Jul	4.70
ug	11.60	Aug	4.40	Aug	2.90	Aug	2.40	Aug	1.40	Aug	2.30	Aug	4.30
ep	11.80	Sep	4.40	Sep	2.90	Sep	2.20	Sep	1.50	Sep	2.20	Sep	4.10
lov	10.90 10.20	Oct	4.50 4.40	Oct	3.00 3.00	Oct	2.20 2.00	Oct	1.70 1.70	Oct	2.10	Oct	4.00 4.00
ec	9.50	Nov Dec	4.40	Nov Dec	3.00	Nov Dec	1.90	Nov Dec	1.70	Nov Dec	2.10 2.20	Nov Dec	3.90
an 1982	9.30	Jan 1989	4.70	Jan 1996	3.00	Jan 2003	1.90	Jan 2010	1.60	Jan 2017	2.20	Jan 2024	3.90
eb	9.10	Feb	4.80	Feb	2.90	Feb	1.70	Feb	1.30	Feb	2.20	Feb	3.80
lar	8.80	Mar	4.70	Mar	2.80	Mar	1.70	Mar	1.10	Mar	2.00	Mar	3.80
pr	8.90	Apr	4.60	Apr	2.70	Apr	1.50	April	0.90	Apr	1.90	Apr	3.60
lay	8.70	May	4.60	May	2.70	May	1.60	May	0.90	May	1.70	May	3.40
un	8.60	Jun	4.50	Jun	2.70	Jun	1.50	Jun	0.90	Jun	1.70	Jun	3.30
ul –	7.60	Jul	4.60	Jul	2.70	Jul	1.50	Jul	0.90	July	1.70	Jul	3.20
ug	7.10	Aug	4.40	Aug	2.60	Aug	1.30	Aug	0.90	Aug	1.70	Aug	3.20
ep	5.90	Sep	4.30	Sep	2.70	Sep	1.20	Sep	0.80	Sep	1.70	Sep	3.30
ct	5.90	Oct	4.30	Oct	2.60	Oct	1.30	Oct	0.60	Oct	1.80		
ov ec	5.30 4.50	Nov Dec	4.40 4.40	Nov Dec	2.60 2.60	Nov Dec	1.10 1.10	Nov Dec	0.80 0.80	Nov Dec	1.70 1.80		
an 1983	4.30	Jan 1990	4.40	Jan 1997	2.50	Jan 2004	1.10	Jan 2011	1.00	Jan 2018	1.80		
eb	4.70	Feb	4.60	Feb	2.50	Feb	1.20	Feb	1.10	Feb	1.80		
1ar	4.70	Mar	4.90	Mar	2.50	Mar	1.60	Mar	1.20	Mar	2.10		
pr	4.30	Apr	4.80	Apr	2.70	Apr	1.80	Apr	1.30	Apr	2.10		
1ay	3.60	May	4.80	May	2.50	May	1.70	May	1.50	May	2.20		
un	2.90	Jun	4.90	Jun	2.40	Jun	1.90	Jun	1.60	Jun	2.30		
ul	3.00	Jul	5.00	Jul	2.40	Jul	1.80	Jul	1.80	Jul	2.40		
ug	3.00	Aug	5.50	Aug	2.30	Aug	1.70	Aug	2.00	Aug	2.20		
ep	3.50	Sep	5.50	Sep	2.20	Sep	2.00	Sep	2.00	Sep	2.20		
Oct Iov	3.70 4.30	Oct Nov	5.30 5.30	Oct Nov	2.30 2.20	Oct Nov	2.00 2.20	Oct Nov	2.10 2.20	Oct Nov	2.10 2.20		
lec	4.80	Dec	5.20	Dec	2.20	Dec	2.20	Dec	2.20	Dec	2.20		
an 1984	4.80	Jan 1991	5.60	Jan 1998	2.20	Jan 2005	2.30	Jan 2012	2.30	Jan 2019	2.20		
eb	4.80	Feb	5.60	Feb	2.30	Feb	2.40	Feb	2.20	Feb	2.10		
/lar	5.00	Mar	5.20	Mar	2.10	Mar	2.30	Mar	2.30	Mar	2.00		
pr	5.00	Apr	5.10	Apr	2.10	Apr	2.20	Apr	2.30	Apr	2.10		
1ay	5.20	May	5.10	May	2.20	May	2.20	May	2.30	May	2.00		
un	5.10	Jun	5.00	Jun	2.20	Jun	2.00	Jun	2.20	Jun	2.10		
ul –	5.00	Jul	4.80	Jul	2.20	Jul	2.10	Jul	2.10	Jul	2.20		
ug	5.10	Aug	4.60	Aug	2.50	Aug	2.10	Aug	1.90	Aug	2.40		
ep ct	5.10 4.90	Sep Oct	4.50 4.40	Sep Oct	2.50 2.30	Sep Oct	2.00 2.10	Sep Oct	2.00 2.00	Sept Oct	2.40 2.30		
ov	4.90	Nov	4.40	Nov	2.30	Nov	2.10	Nov	1.90	Nov	2.30		
ec	4.70	Dec	4.40	Dec	2.40	Dec	2.20	Dec	1.90	Dec	2.30		
in 1985	4.50	Jan 1992	3.90	Jan 1999	2.40	Jan 2006	2.10	Jan 2013	1.90	Jan 2020	2.30		
eb	4.70	Feb	3.80	Feb	2.10	Feb	2.10	Feb	2.00	Feb	2.40		
1ar	4.80	Mar	3.90	Mar	2.10	Mar	2.10	Mar	1.90	Mar	2.10		
pr	4.50	Apr	3.90	Apr	2.20	Apr	2.30	Apr	1.70	Apr	1.40		
1ay	4.50	May	3.80	May	2.00	May	2.40	May	1.70	May	1.20		
in I	4.40	Jun	3.80	Jun	2.10	June	2.60	Jun	1.60	Jun	1.20		
ul 	4.20	Jul	3.70	Jul	2.10	July	2.70	Jul	1.70	Jul	1.60		
ug	4.10	Aug	3.50	Aug	1.90	Aug	2.80	Aug	1.80	Aug	1.70		
ep ct	4.00 4.10	Sep Oct	3.30	Sep Oct	2.00 2.10	Sep Oct	2.90 2.70	Sept	1.70 1.70	Sep Oct	1.70 1.60		
ct ov	4.10 4.40	Nov	3.50 3.40	Nov	2.10	Nov	2.70	Oct Nov	1.70	Nov	1.60		
ec	4.30	Dec	3.30	Dec	1.90	Dec	2.60	Dec	1.70	Dec	1.60		
in 1986	4.40	Jan 1993	3.50	Jan 2000	2.00	Jan 2007	2.70	Jan 2014	1.60	Jan 2021	1.40		
eb	4.20	Feb	3.60	Feb	2.20	Feb	2.70	Feb	1.60	Feb	1.30		
lar	4.10	Mar	3.40	Mar	2.40	Mar	2.50	Mar	1.70	Mar	1.60		
pr	4.20	Apr	3.50	Apr	2.30	Apr	2.30	Apr	1.80	Apr	3.00		
1ay	4.00	May	3.40	May	2.40	May	2.20	May	2.00	May	3.80		
in	4.00	Jun	3.30	Jun	2.50	Jun	2.20	Jun	1.90	Jun	4.50		
d	4.10	Jul	3.20	Jul	2.50	Jul	2.20	Jul	1.90	Jul	4.30		
ug	4.00	Aug	3.30	Aug	2.60	Aug	2.10	Aug	1.70	Aug	4.00		
ер	4.10	Sep	3.20	Sep	2.60	Sep	2.10	Sep	1.70	Sep	4.00		
	4.00	Oct	3.00	Oct	2.50	Oct	2.20	Oct	1.80	Oct	4.60		
ov	3.80	Nov	3.10	Nov	2.60	Nov	2.30	Nov	1.70	Nov	4.90		

Source: U.S. Dept. of Labor, Bureau of Labor Statistics, Consumer Price Index - All Urban Consumers less food and energy, Change for 12-Month Period, Bureau of Labor Statistics, https://www.bls.gov/cpi/data.htm

Union Electric Company d/b/a Ameren Missouri Case No. GR-2024-0369



Average Yields on Moody's Public Utility Bonds

Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1980	12.12	Jan 1987	8.77	Jan 1994	7.31	Jan 2001	7.76	Jan 2008	6.08	Jan 2015	3.83	Jan 2022	3.46
Feb	13.48	Feb	8.81	Feb	7.44	Feb	7.69	Feb	6.28	Feb	3.91	Feb	3.73
Mar	14.33	Mar	8.75	Mar	7.83	Mar	7.59	Mar	6.29	Mar	3.97	Mar	4.02
Apr	13.50	Apr	9.30	Apr	8.20	Apr	7.81	Apr	6.36	Apr	3.96	Apr	4.34
May	12.17	May	9.82	May	8.32	May	7.88	May	6.38	May	4.38	May	4.79
Jun	11.87	Jun	9.87	Jun	8.31	Jun	7.75	Jun	6.50	Jun	4.60	Jun	4.91
Jul	12.12	Jul	10.01	Jul	8.47	Jul	7.71	Jul	6.50	Jul	4.63	Jul	4.84
Aug	12.82	Aug	10.33	Aug	8.41	Aug	7.57	Aug	6.48	Aug	4.54	Aug	4.80
Sep	13.29	Sep	11.00	Sep	8.65	Sep	7.73	Sep	6.59	Sep	4.68	Sep	5.33
Oct	13.53	Oct	11.32	Oct	8.88	Oct	7.64	Oct	7.70	Oct	4.63	Oct	5.91
Nov	14.07	Nov	10.82	Nov	9.00	Nov	7.61	Nov	7.80	Nov	4.73	Nov	5.78
Dec	14.48	Dec	10.99	Dec	8.79	Dec	7.86	Dec	6.87	Dec	4.69	Dec	5.30
Jan 1981	14.22	Jan 1988	10.75	Jan 1995	8.77	Jan 2002	7.69	Jan 2009	6.77	Jan 2016	4.62	Jan 2023	5.23
Feb	14.84	Feb	10.11	Feb	8.56	Feb	7.62	Feb	6.72	Feb	4.44	Feb	5.32
Mar	14.86	Mar	10.11	Mar	8.41	Mar	7.83	Mar	6.85	Mar	4.40	Mar	5.44
Apr	15.32	Apr	10.53	Apr	8.30	Apr	7.74	Apr	6.90	Apr	4.16	Apr	5.20
May	15.84	May	10.75	May	7.93	May	7.76	May	6.83	May	4.06	May	5.44
Jun	15.27	Jun	10.71	Jun	7.62	Jun	7.67	Jun	6.54	Jun	3.93	Jun	5.46
Jul	15.87	Jul	10.96	Jul	7.73	Jul	7.54	Jul	6.15	Jul	3.70	Jul	5.48
Aug	16.33	Aug	11.09	Aug	7.86	Aug	7.34	Aug	5.80	Aug	3.73	Aug	5.77
Sep	16.89	Sep	10.56	Sep	7.62	Sep	7.23	Sep	5.60	Sep	3.80	Sep	5.91
Oct	16.76	Oct	9.92	Oct	7.46	Oct	7.43	Oct	5.64	Oct	3.90	Oct	6.38
Nov	15.50	Nov	9.89	Nov	7.40	Nov	7.31	Nov	5.71	Nov	4.21	Nov	5.99
Dec	15.77	Dec	10.02	Dec	7.21	Dec	7.20	Dec	5.86	Dec	4.39	Dec	5.46
Jan 1982	16.73	Jan 1989	10.02	Jan 1996	7.20	Jan 2003	7.13	Jan 2010	5.83	Jan 2017	4.24	Jan 2024	5.51
Feb	16.72	Feb	10.02	Feb	7.37	Feb	6.92	Feb	5.94	Feb	4.25	Feb	5.59
Mar	16.07	Mar	10.16	Mar	7.72	Mar	6.80	Mar	5.90	Mar	4.30	Mar	5.59
Apr	15.82	Apr	10.14	Apr	7.88	Apr	6.68	April	5.87	Apr	4.19	Apr	5.83
May	15.60	May	9.92	May	7.99	May	6.35	May	5.59	May	4.19	May	5.78
Jun	16.18	Jun	9.49	Jun	8.07	Jun	6.21	Jun	5.62	Jun	4.01	Jun	5.65
Jul	16.04	Jul	9.34	Jul	8.02	Jul	6.54	Jul	5.41	July	4.06	Jul	5.68
Aug	15.22	Aug	9.37	Aug	7.84	Aug	6.78	Aug	5.10	Aug	3.92	Aug	5.42
Sep	14.56	Sep	9.43	Sep	8.01	Sep	6.58	Sep	5.10	Sep	3.93	Sep	5.23
Oct	13.88	Oct	9.37	Oct	7.76	Oct	6.50	Oct	5.20	Oct	3.97		
Nov	13.58	Nov	9.33	Nov	7.48	Nov	6.44	Nov	5.45	Nov	3.88		
Dec	13.55	Dec	9.31	Dec	7.58	Dec	6.35	Dec	5.64	Dec	3.85		
Jan 1983	13.46	Jan 1990	9.44	Jan 1997	7.79	Jan 2004	6.23	Jan 2011	5.64	Jan 2018	3.91		
Feb	13.60	Feb	9.66	Feb	7.68	Feb	6.17	Feb	5.73	Feb	4.15		
Mar	13.28	Mar	9.75	Mar	7.92	Mar	6.01	Mar	5.62	Mar	4.21		
Apr	13.03	Apr	9.87	Apr	8.08	Apr	6.38	Apr	5.62	Apr	4.24		
May	13.00	May	9.89	May	7.94	May	6.68	May	5.38	May	4.36		
Jun	13.17	Jun	9.69	Jun	7.77	Jun	6.53	Jun	5.32	Jun	4.37		
Jul	13.28	Jul	9.66	Jul	7.52	Jul	6.34	Jul	5.34	Jul	4.35		
Aug	13.50	Aug	9.84	Aug	7.57	Aug	6.18	Aug	4.78	Aug	4.33		
Sep	13.35	Sep	10.01	Sep	7.50	Sep	6.01	Sep	4.61	Sep	4.41		
Oct	13.19	Oct	9.94	Oct	7.37	Oct	5.95	Oct	4.66	Oct	4.56		
Nov	13.33	Nov	9.76	Nov	7.24	Nov	5.97	Nov	4.37	Nov	4.65		
Dec	13.48	Dec	9.57	Dec	7.16	Dec	5.93	Dec	4.47	Dec	4.51		
Jan 1984	13.40	Jan 1991	9.56	Jan 1998	7.03	Jan 2005	5.80	Jan 2012	4.48	Jan 2019	4.48		
Feb	13.50	Feb	9.31	Feb	7.09	Feb	5.64	Feb	4.47	Feb	4.35		
Mar	14.03	Mar	9.39	Mar	7.13	Mar	5.86	Mar	4.59	Mar	4.26		
Apr	14.30	Apr	9.30	Apr	7.12	Apr	5.72	Apr	4.54	Apr	4.18		
May	14.95	May	9.29	May	7.11	May	5.60	May	4.36	May	4.10		
Jun	15.16	Jun	9.44	Jun	6.99	Jun	5.39	Jun	4.26	Jun	3.93		
Jul	14.92	Jul	9.40	Jul	6.99	Jul	5.50	Jul	4.12	Jul	3.79		
Aug	14.29	Aug	9.16	Aug	6.96	Aug	5.51	Aug	4.18	Aug	3.36		
Sep	14.04	Sep	9.03	Sep	6.88	Sep	5.54	Sep	4.17	Sept	3.44		
Oct	13.68	Oct	8.99	Oct	6.88	Oct	5.79	Oct	4.04	Oct	3.45		
Nov	13.15	Nov	8.93	Nov	6.96	Nov	5.88	Nov	3.95	Nov	3.48		
Dec	12.96	Dec	8.76	Dec	6.84	Dec	5.83	Dec	4.10	Dec	3.45		
Jan 1985	12.88	Jan 1992	8.67	Jan 1999	6.87	Jan 2006	5.77	Jan 2013	4.24	Jan 2020	3.34		
Feb	13.00	Feb	8.77	Feb	7.00	Feb	5.83	Feb	4.29	Feb	3.16		
Mar	13.66	Mar	8.84	Mar	7.18	Mar	5.98	Mar	4.29	Mar	3.59		
Apr	13.42	Apr	8.79	Apr	7.16	Apr	6.28	Apr	4.08	Apr	3.31		
May	12.89	May	8.72	May	7.42	May	6.39	May	4.24	May	3.22		
Jun	11.91	Jun	8.64	Jun	7.70	June	6.39	Jun	4.63	Jun	3.10		
Jul	11.88	Jul	8.46	Jul	7.66	July	6.37	Jul	4.78	Jul	2.77		
Aug	11.93	Aug	8.34	Aug	7.86	Aug	6.20	Aug	4.85	Aug	2.76		
Sep	11.95	Sep	8.32 8.44	Sep	7.87	Sep	6.03	Sept	4.90 4.78	Sep	2.88 2.98		
Oct	11.84 11.33	Oct Nov	8.44 8.53	Oct	8.02 7.86	Oct Nov	6.01 5.82	Oct Nov	4.78 4.86	Oct			
Nov Dec	10.82	Dec	8.53 8.36	Nov Dec	7.86 8.04	Dec	5.82 5.83	Dec	4.86	Nov Dec	2.89 2.80		
Jan 1986	10.62	Jan 1993	8.23	Jan 2000	8.22	Jan 2007	5.85	Jan 2014	4.00	Jan 2021	2.80		
			8.23 8.00										
Feb Mar	10.16 9.33	Feb Mar	8.00 7.85	Feb Mar	8.10 8.14	Feb Mar	5.91 5.87	Feb Mar	4.64 4.64	Feb Mar	3.13		
											3.48		
Apr May	9.02 9.52	Apr May	7.76 7.78	Apr May	8.14 8.56	Apr May	6.01 6.03	Apr May	4.52 4.37	Apr May	3.33		
May Jun	9.52 9.51	Jun	7.78	May Jun	8.56	Jun	6.34	May Jun	4.37	May Jun	3.36 3.19		
Jul	9.51	Jul	7.68	Jun Jul	8.22 8.17	Jul	6.28	Jul	4.42	Jul	2.99		
Aug	9.19	Aug	7.53	Aug	8.06	Aug	6.28	Aug	4.35	Aug	2.99		
Sep	9.15	Sep	7.01	Sep	8.15	Sep	6.24	Sep	4.28	Sep	3.00		
Oct	9.39	Oct	6.99	Oct	8.08	Oct	6.17	Oct	4.40	Oct	3.13		
Nov	9.39	Nov	7.30	Nov	8.03	Nov	6.04	Nov	4.24	Nov	3.06		
Dec	8.96	Dec	7.33	Dec	7.79	Dec	6.23	Dec	4.29	Dec	3.17		

Source: https://fred.stlouisfed.org/series/DBAA

Average Yields on Thirty-Year U.S. Treasury Bonds

	5		5	•• • • /	5		5		D . (94)		5		D ((0))
Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)	Mo/Year	Rate (%)
Jan 1980 Feb	10.60	Jul	7.27 7.33	Jan 1993 Feb	7.34 7.09	Jul	5.98	Jan 2006 Fab	4.57 4.57	Jul	2.59 2.77	Jan 2019 Feb	3.04 3.02
	12.13 12.34	Aug	7.62		6.82	Aug	6.07 6.07	Feb Mar	4.57	Aug	2.88		2.98
Mar Apr	12.34	Sep Oct	7.62	Mar Apr	6.85	Sep Oct	6.26	Mar Apr	4.73 5.06	Sep Oct	2.00	Mar Apr	2.98
May	10.36	Nov	7.52	May	6.92	Nov	6.15	May	5.20	Nov	2.80	May	2.84
Jun	9.81	Dec	7.37	Jun	6.81	Dec	6.35	June	5.15	Dec	2.88	Jun	2.57
Jul	10.24	Jan 1987	7.39	Jul	6.63	Jan 2000	6.63	July	5.13	Jan 2013	3.08	Jul	2.57
Aug	11.00	Feb	7.54	Aug	6.32	Feb	6.23	Aug	5.00	Feb	3.17	Aug	2.12
Sep	11.34	Mar	7.55	Sep	6.00	Mar	6.05	Sep	4.85	Mar	3.16	Sept	2.16
Oct	11.59	Apr	8.25	Oct	5.94	Apr	5.85	Oct	4.85	Apr	2.93	Oct	2.19
Nov	12.37	May	8.78	Nov	6.21	May	6.15	Nov	4.69	May	3.11	Nov	2.28
Dec	12.40	Jun	8.57	Dec	6.25	Jun	5.93	Dec	4.68	Jun	3.40	Dec	2.30
Jan 1981	12.14	Jul	8.64	Jan 1994	6.29	Jul	5.85	Jan 2007	4.85	Jul	3.61	Jan 2020	2.22
Feb	12.80	Aug	8.97	Feb	6.49	Aug	5.72	Feb	4.82	Aug	3.76	Feb	1.97
Mar	12.69	Sep	9.59	Mar	6.91	Sep	5.83	Mar	4.72	Sept	3.79	Mar	1.46
Apr	13.20	Oct	9.61	Apr	7.27	Oct	5.80	Apr	4.87	Oct	3.68	Apr	1.27
May	13.60	Nov	8.95	May	7.41	Nov	5.78	May	4.90	Nov	3.80	May	1.38
Jun	12.96	Dec	9.12	Jun	7.40	Dec	5.49	Jun	5.20	Dec	3.89	Jun	1.49
Jul	13.59	Jan 1988	8.83	Jul	7.58	Jan 2001	5.54	Jul	5.11	Jan 2014	3.77	Jul	1.31
Aug	14.17	Feb	8.43	Aug	7.49	Feb	5.45	Aug	4.93	Feb	3.66	Aug	1.36
Sep	14.67	Mar	8.63	Sep	7.71	Mar	5.34	Sep	4.79	Mar	3.62	Sep	1.42
Oct	14.68	Apr	8.95	Oct	7.94	Apr	5.65	Oct	4.77	Apr	3.52	Oct	1.57
Nov	13.35	May	9.23	Nov	8.08	May	5.78	Nov	4.52	May	3.39	Nov	1.62
Dec	13.45	Jun	9.00	Dec	7.87	Jun	5.67	Dec	4.53	Jun	3.42	Dec	1.67
Jan 1982	14.22	Jul	9.14	Jan 1995	7.85	Jul	5.61	Jan 2008	4.33	Jul	3.33	Jan 2021	1.82
Feb	14.22	Aug	9.32	Feb	7.61	Aug	5.48	Feb	4.52	Aug	3.20	Feb	2.04
Mar	13.53	Sep	9.06	Mar	7.45	Sep	5.48	Mar	4.39	Sep	3.26	Mar	2.34
Apr	13.37	Oct	8.89	Apr	7.36	Oct	5.32	Apr	4.44	Oct	3.04	Apr	2.30
May	13.24	Nov	9.02	May	6.95	Nov	5.12	May	4.60	Nov	3.04	May	2.32
Jun	13.92	Dec	9.01	Jun	6.57	Dec	5.48	Jun	4.69	Dec	2.83	Jun	2.16
Jul	13.55	Jan 1989	8.93	Jul	6.72	Jan 2002	5.45	Jul	4.57	Jan 2015	2.46	Jul	1.94
Aug	12.77	Feb	9.01	Aug	6.86	Feb	5.45	Aug	4.50	Feb	2.57	Aug	1.92
Sep Oct	12.07 11.17	Mar Apr	9.17 9.03	Sep Oct	6.55 6.37	Mar	5.81 5.79	Sep Oct	4.27 4.17	Mar Apr	2.63 2.59	Sep Oct	1.94 2.06
Nov	10.54	May	8.83	Nov	6.26	Apr May	5.76	Nov	4.00	May	2.96	Nov	1.94
Dec	10.54	Jun	8.27	Dec	6.06	Jun	5.68	Dec	2.87	Jun	3.11	Dec	1.85
Jan 1983	10.54	Jul	8.08	Jan 1996	6.05	Jul	5.59	Jan 2009	3.13	Jul	3.07	Jan 2022	2.10
Feb	10.88	Aug	8.12	Feb	6.24	Aug	5.28	Feb	3.59	Aug	2.86	Feb	2.10
Mar	10.63	Sep	8.15	Mar	6.60	Sep	4.96	Mar	3.64	Sep	2.95	Mar	2.41
Apr	10.48	Oct	8.00	Apr	6.79	Oct	5.18	Apr	3.76	Oct	2.89	Apr	2.81
May	10.53	Nov	7.90	May	6.93	Nov	5.18	May	4.23	Nov	3.03	May	3.07
Jun	10.93	Dec	7.90	Jun	7.06	Dec	5.13	Jun	4.52	Dec	2.97	Jun	3.25
Jul	11.40	Jan 1990	8.26	Jul	7.03	Jan 2003	5.14	Jul	4.41	Jan 2016	2.86	Jul	3.10
Aug	11.82	Feb	8.50	Aug	6.84	Feb	5.02	Aug	4.37	Feb	2.62	Aug	3.13
Sep	11.63	Mar	8.56	Sep	7.03	Mar	5.03	Sep	4.19	Mar	2.68	Sep	3.56
Oct	11.58	Apr	8.76	Oct	6.81	Apr	5.13	Oct	4.19	Apr	2.62	Oct	4.04
Nov	11.75	May	8.73	Nov	6.48	May	4.76	Nov	4.31	May	2.63	Nov	4.00
Dec	11.88	Jun	8.46	Dec	6.55	Jun	4.62	Dec	4.49	Jun	2.45	Dec	3.66
Jan 1984	11.75	Jul	8.50	Jan 1997	6.83	Jul	5.13	Jan 2010	4.60	Jul	2.23	Jan 2023	3.66
Feb	11.95	Aug	8.86	Feb	6.69	Aug	5.45	Feb	4.62	Aug	2.26	Feb	3.80
Mar	12.38	Sep	9.03	Mar	6.93	Sep	5.28	Mar	4.64	Sep	2.35	Mar	3.77
Apr	12.65	Oct	8.86	Apr	7.09	Oct	5.30	April	4.69	Oct	2.50	Apr	3.68
May	13.43	Nov	8.54	May	6.94	Nov	5.25	May	4.29	Nov	2.86	May	3.86
Jun	13.44	Dec	8.24	Jun	6.77	Dec	5.21	Jun	4.13	Dec	3.11	Jun	3.87
Jul	13.21	Jan 1991	8.27	Jul	6.51	Jan 2004	5.13	Jul	3.99	Jan 2017	3.02	Jul	3.96
Aug	12.54	Feb	8.03	Aug	6.58	Feb	5.08	Aug	3.80	Feb	3.03	Aug	4.28
Sep	12.29	Mar	8.29	Sep	6.50	Mar	4.90	Sep	3.77	Mar	3.08	Sep	4.47
Oct	11.98	Apr	8.21	Oct	6.33	Apr	5.28	Oct	3.87	Apr	2.94	Oct	4.95
Nov	11.56	May	8.27	Nov	6.11	May	5.51	Nov	4.19	May	2.96	Nov	4.66
Dec	11.52	Jun	8.47	Dec	5.99	Jun	5.48	Dec	4.42	Jun	2.80	Dec	4.14
Jan 1985	11.45	Jul	8.45	Jan 1998	5.81	Jul	5.31	Jan 2011	4.52	July	2.88	Jan 2024	4.26
Feb	11.47	Aug	8.14	Feb	5.89	Aug	5.15	Feb	4.65	Aug	2.80	Feb	4.38
Mar	11.81	Sep	7.95	Mar	5.95	Sep	4.98	Mar	4.51	Sep	2.78	Mar	4.36
Apr	11.47	Oct Nov	7.93 7.92	Apr	5.92	Oct	4.94	Apr	4.50	Oct	2.88	Apr	4.66
May	11.05			May	5.93	Nov	4.95	May	4.29	Nov	2.80	May	4.62
Jun	10.45	Dec	7.70	Jun	5.70	Dec	4.91	Jun	4.23	Dec	2.77	Jun	4.44
Jul	10.50 10.56	Jan 1992 Feb	7.58 7.85	Jul	5.68 5.54	Jan 2005 Feb	4.77 4.56	Jul	4.27 3.65	Jan 2018 Feb	2.88 3.13	Jul	4.46 4.15
Aug Sep	10.56	⊢eb Mar	7.85 7.97	Aug Sep	5.54 5.20	⊢eb Mar	4.56 4.77	Aug Sep	3.65 3.18	⊢eb Mar	3.13	Aug Sep	4.15 4.04
Sep Oct	10.61	Apr	7.97	Oct	5.20 5.01	Apr	4.77	Oct	3.18	Apr	3.09	Seh	4.04
Nov	10.50	Apr May	7.96	Nov	5.01	Apr May	4.65	Nov	3.13	Apr May	3.07		
Dec	9.54	Jun	7.84	Dec	5.06	Jun	4.49	Dec	2.98	Jun	3.05		
Jan 1986	9.40	Jul	7.60	Jan 1999	5.16	Jul	4.28	Jan 2012	3.03	Jul	3.03		
Feb	8.93	Aug	7.39	Feb	5.37	Aug	4.44	Feb	3.11	Aug	3.04		
Mar	7.96	Sep 1992	7.34	Mar	5.58	Sep	4.45	Mar	3.28	Sep	3.15		
Apr	7.39	Oct	7.53	Apr	5.55	Oct	4.64	Apr	3.18	Oct	3.34		
May 1986	7.52	Nov	7.61	May	5.81	Nov	4.70	May	2.93	Nov	3.36		
Jun	7.57	Dec	7.44	Jun	6.04	Dec	4.62	Jun	2.70	Dec	3.10		

Sources:

http://research.stlouisfed.org/fred2/data/GS30.txt

Average Yields on Mergent's Public Utility Bonds and Thirty-Year U.S. Treasury Bonds (1980 - 2024)



Year

Monthly Spreads Between Yields on Moody's Public Utility Bonds and 30-Year U.S. Treasury Bonds (1980 - 2024)



Year

Average Yields on A and BBB rated Utility Bonds (2015- 2024)



SCHEDULE SJW-d4-5

Historical Consolidated Capital Structures for Ameren Corporation

(Dollars in Millions)

	March 31,	June 30,	September 30,	December 31,
Capital Components	2022	2022	2022	2022
Common Equity	\$9,804.7	\$9,879.0	\$10,200.0	\$10,507.9
Preferred Stock	\$129.6	\$129.6	\$129.6	\$129.6
Long-Term Debt	\$12,820.4	\$13,341.7	\$13,484.1	\$13,784.4
Total Capitalization	\$22,754.7	\$23,350.4	\$23,813.7	\$24,421.9
	March 31,	June 30,	September 30,	December 31,
Capital Components	2023	2023	2023	2023
Common Equity	\$10,507.9	\$10,606.2	\$10,696.6	\$11,349.0
Preferred Stock	\$129.6	\$129.6	\$129.6	\$129.6
Long-Term Debt	\$13,784.4	\$14,281.1	\$14,678.0	\$15,970.2
Total Capitalization	\$24,421.9	\$25,016.9	\$25,504.3	\$27,448.8
	March 31,	June 30,	September 30,	
Capital Components	2024	2024	2024	
Common Equity	\$11,443.1	\$11,537.9	\$11,832.4	
Preferred Stock	\$129.6	\$129.6	\$129.6	
Long-Term Debt	\$16,315.9	\$17,079.4	\$16,723.1	
Total Capitalization	\$27,888.6	\$28,746.8	\$28,685.1	

Historical Consolidated Capital Structures for Ameren Missouri (Dollars in Millions)

	March 31,	June 30,	September 30,	December 31,
Capital Components	2022	2022	2022	2022
Common Equity	\$5,880.1	\$5,980.9	\$6,377.9	\$6,347.1
Preferred Stock	\$81.8	\$81.8	\$81.8	\$81.8
Long-Term Debt	\$5,322.5	\$5,842.7	\$5,844.4	\$5,798.6
Total Capitalization	\$11,284.5	\$11,905.5	\$12,304.1	\$12,227.6
	March 31,	June 30,	September 30,	December 31,
Capital Components	2023	2023	2023	2023
Common Equity	\$6,375.0	\$6,476.7	\$6,887.6	\$6,882.5
Preferred Stock	\$81.8	\$81.8	\$81.8	\$81.8
Long-Term Debt	\$6,294.4	\$6,295.5	\$6,297.2	\$6,298.9
Total Capitalization	\$12,751.2	\$12,854.0	\$13,266.6	\$13,263.2
	March 31,	June 30,	September 30,	
Capital Components	2024	2024	2024	
Common Equity	\$6,907.5	\$7,385.5	\$7,766.8	
Preferred Stock	\$81.8	\$81.8	\$81.8	
Long-Term Debt	\$6,644.1	\$6,790.2	\$6,830.3	
Total Capitalization	\$13,633.5	\$14,257.5	\$14,678.9	

Sources:

Form 10-Q, 10-K.

Staff Data Request No. 0112.

Historical Consolidated Capital Structures for Ameren Corporation

(Dollars in Millions)

	March 31,	June 30,	September 30,	December 31,
Capital Components	2022	2022	2022	2022
Common Equity	43.09%	42.31%	42.83%	43.03%
Preferred Stock	0.57%	0.56%	0.54%	0.53%
Long-Term Debt	56.34%	57.14%	56.62%	56.44%
Total Capitalization	100.00%	100.00%	100.00%	100.00%
	March 31,	June 30,	September 30,	December 31,
Capital Components	2023	2023	2023	2023
Common Equity	43.03%	42.40%	41.94%	41.35%
Preferred Stock	0.53%	0.52%	0.51%	0.47%
Long-Term Debt	56.44%	57.09%	57.55%	58.18%
Total Capitalization	100.00%	100.00%	100.00%	100.00%
	March 31,	June 30,	September 30,	
Capital Components	2024	2024	2024	
Common Equity	41.03%	40.14%	41.25%	
Preferred Stock	0.46%	0.45%	0.45%	
Long-Term Debt	58.50%	59.41%	58.30%	
Total Capitalization	100.00%	100.00%	100.00%	

Historical Consolidated Capital Structures for Ameren Missouri

(Dollars in Millions)

Capital Components	March 31, 2022	June 30, 2022	September 30, 2022	December 31, 2022
Common Equity	52.11%	50.24%	51.84%	51.91%
Preferred Stock	0.73%	0.69%	0.67%	0.67%
Long-Term Debt	47.17%	49.08%	47.50%	47.42%
Total Capitalization	100.00%	100.00%	100.00%	100.00%
Capital Components	March 31, 2023	June 30, 2023	September 30, 2023	December 31, 2023
Common Equity	50.00%	50.39%	51.92%	51.89%
Preferred Stock	0.64%	0.64%	0.62%	0.62%
Long-Term Debt	49.36%	48.98%	47.47%	47.49%
Total Capitalization	100.00%	100.00%	100.00%	100.00%
Conital Components	March 31,	June 30,	September 30,	
Capital Components	2024	2024	2024	
Common Equity	50.67%	51.80%	52.91%	
Preferred Stock	0.60%	0.57%	0.56%	
Long-Term Debt	48.73%	47.63%	46.53%	
Total Capitalization	100.00%	100.00%	100.00%	

Sources:

Form 10-Q, 10-K.

Staff Data Request No. 0112.

Capital Structure as of September 30, 2024 Ameren Corporation

(Dollars in Millions)

Capital Component	Amount	Percentage of Capital
Common Stock Equity Preferred Stock Long-Term Debt	\$11,832 \$130 \$16,723	41.25% 0.45% 58.30%
Total Capitalization	<u>\$28,685</u>	100.00%

Capital Structure as of September 30, 2024 Ameren Missouri

(Dollars in Millions)

Capital Component	Amount	Percentage of Capital
Common Stock Equity Preferred Stock Long-Term Debt	\$7,767 \$82 \$6,830	52.91% 0.56% 46.53%
Total Capitalization	\$14,679	100.00%

Sources:

Form 10-Q, 10-K.

Staff Data Request No. 0112.

Cost of Long-Term Debt as of September 30, 2024

Ameren Corporation (In millions)		
Total Annual Cost:	\$697.3	
Total Carrying Value:	\$16,671.3	
Embedded Cost = Total Annual Cost/Total Carrying Value	4.182%	

Ameren Missouri (In millions)		-
Total Annual Cost:	\$287.8	
Total Carrying Value:	\$6,791.9	
Embedded Cost = Total Annual Cost/Total Carrying Value	4.237%	

Note: Source: Staff Data Requests No. 0113

Cost of Preferred Stock as of September 30, 2024

Ameren Corporation (In millions)		_
Total Annual Cost:	\$5.3	
Total Carrying Value:	\$130.2	
Embedded Cost = Total Annual Cost/Total Carrying Value	4.094%	

Ameren Missouri (In millions)		
Total Annual Cost:	\$3.4	
Total Carrying Value:	\$81.8	
Embedded Cost = Total Annual Cost/Total Carrying Value	4.180%	

Note: Source: Staff Data Requests No. 0113

PROXY GROUP SCREENING DATA AND RESULTS

0.692307692	2
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		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Gas Utility Companies	Ticker	Stock Publicly Traded	Information Provided by Value Line	Information Provided by Reuters	5-Year Data Available	Dividends	At Least Investment Grade Credit Rating	S&P Global Rating	Moody's	At least 70% of Operating Revenue from Regulated Utility Operations	At least 65% of Assets are Regulated Utility Operations
Atmos Energy Corporation	ATO	Yes	Yes	Yes	Yes	Yes	Yes	A-	A1	Yes	Yes
Chesapeake Util.	CPK	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	Yes	Yes
New Jersey Resources Corporation	NJR	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	Yes	Yes
NiSource Inc.	NI	Yes	Yes	Yes	Yes	Yes	Yes	BBB+	Baa2	Yes	Yes
Northwest Natural Holding Company	NWN	Yes	Yes	Yes	Yes	Yes	Yes	A	N/A	Yes	Yes
ONE Gas, Inc.	OGS	Yes	Yes	Yes	Yes	Yes	Yes	A-	A3	Yes	Yes
South Jersey Industries, Inc.	SJI	No	Yes	Yes	Yes	Yes	N/A	N/A	N/A	Yes	Yes
Southwest Gas Holdings, Inc.	SWX	Yes	Yes	Yes	Yes	Yes	Yes	BBB-	Baa2	Yes	Yes
Spire Inc.	SR	Yes	Yes	Yes	Yes	Yes	Yes	BBB+	Baa2	Yes	Yes

Source: The Value Line Investment Survey: Ratings & Reports

Source: The Value Line Investment Survey: Ratings & Reports

Source: Reuters, https://www.reuters.com/

Source: The Value Line Investment Survey: Ratings & Reports

Source: The Value Line Investment Survey: Ratings & Reports

Source: S&P Global Market Intelligence

Source: S&P Global Market Intelligence

Source: S&P Global Market Intelligence Source: SEC Form 10-K Filings

Source: SEC Form 10-K Filings

Source: The Value Line Investment Survey: Ratings & Reports

Source: S&P Global Market Intelligence, Value Line Investment Survey, Yahoo! Finance, and Zacks

Source: S&P Global Market Intelligence, Value Line Investment Survey, Yahoo! Finance, and Zacks

PROXY GROUP LIST

Electric Utility Companies	Ticker
1 Atmos Energy Corporation	ATO
2 Northwest Natural Holding Company	NWN
3 ONE Gas, Inc.	OGS
4 Southwest Gas Holdings, Inc.	SWX
5 Spire Inc.	SR

Growth Rate Estimates Earning per Share (EPS), Based on Dividend per Share (DPS) and Book Value per Share for the Comparable Electric Utility Companies

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
2024 Q4		Pa	ast 10-Yea	rs		Past 5-Yea	r		Projected			Average		Projective	GDP
Natural Gas Utility Companies	Ticker	EPS	DPS	BVPS	EPS	DPS	BVPS	EPS	DPS	BVPS	EPS	DPS	BVPS	Growth	Growth
1 Atmos Energy Corporation	ATO	9.50%	7.00%	9.50%	9.00%	8.50%	12.00%	7.00%	7.50%	5.00%	8.50%	7.67%	8.83%	6.50%	3.90%
2 Northwest Natural Holding Company	NWN	-1.00%	1.50%	1.00%	2.50%	0.50%	0.50%	6.50%	0.50%	4.00%	2.67%	0.83%	1.83%	3.67%	3.90%
3 ONE Gas, Inc.	OGS				6.00%	8.50%	4.50%	3.50%	2.50%	4.50%	4.75%	5.50%	4.50%	3.50%	3.90%
4 Southwest Gas Holdings, Inc.	SWX	5.50%	8.50%	6.50%	4.50%	7.00%	7.00%	10.00%	5.50%	7.50%	6.67%	7.00%	7.00%	7.67%	3.90%
5 Spire Inc.	SR	5.00%	5.00%	5.50%	3.00%	5.50%	3.50%	4.50%	4.50%	5.50%	4.17%	5.00%	4.83%	4.83%	3.90%
Average		4.75%	5.50%	5.63%	5.00%	6.00%	5.50%	6.30%	4.10%	5.30%	5.35%	5.20%	5.40%	5.23%	3.90%

Note:

[1] Source: The Value Line Investment Survey

[2] Source: The Value Line Investment Survey

[3] Source: The Value Line Investment Survey

[4] Source: The Value Line Investment Survey

[5] Source: The Value Line Investment Survey

[6] Source: The Value Line Investment Survey

[7] Source: The Value Line Investment Survey

[8] Source: The Value Line Investment Survey

[9] Source: The Value Line Investment Survey

[10] =([1]+[4]+[7])/3

[11] =([2]+[5]+[8])/3

[12] =([3]+[6]+[9])/3

[13] =([7]+[8]+[9])/3

[14] Source: Congress Budget Office (CBO), Budget Economic Outlook

[15] = (4 x [13] + [14]) / 5

Average High / Low Stock Price for the Comparable Electric Utility Companies

			[1]	[2]	[3]	[4]	[5]	[6]	[7]
	2024 Q4		Octobe	er 2024	Nobemb	oer 2024	Decemb	er 2024	(10/01/24 - 12/31/24)
			Max High	Min Low	Max High	Min Low	Max High	Min Low	Average High/Low
	Company Name	Ticker	Stock Price						
1	Atmos Energy Corporation	ATO	141.41	139.69	146.59	144.42	142.41	140.03	142.42
2	Northwest Natural Holding Company	NWN	40.35	39.65	41.97	41.08	41.43	40.70	40.86
3	ONE Gas, Inc.	OGS	73.55	72.50	75.75	74.18	71.99	70.49	73.08
4	Southwest Gas Holdings, Inc.	SWX	74.65	73.42	77.43	75.38	73.68	72.26	74.47
5	Spire Inc.	SR	65.74	64.64	68.12	66.77	69.27	67.89	67.07

Note:

[1] Source: Wall Street Journal, https://www.wsj.com/market-data

[2] Source: Wall Street Journal, https://www.wsj.com/market-data

[3] Source: Wall Street Journal, https://www.wsj.com/market-data

[4] Source: Wall Street Journal, https://www.wsj.com/market-data

[5] Source: Wall Street Journal, https://www.wsj.com/market-data

[6] Source: Wall Street Journal, https://www.wsj.com/market-data

[7] = ([1]+[2]+[3]+[4]+[5]+[6]) / 6

Discounted Cash Flow (DCF) Costs of Common Equity (COE) Estimates Based on Dividend per Share, Earning per Share, Stock Price, and Growth Rate for the Comparable Electric Utility Companies

	2024 Q4 DCF COE estimate		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
			2023			Expected		Projected		
			Dividend	Stock	Dividend	Dividend	Projected	GDP	Sustainable	
	Electric Utility Companies	Ticker	per Share	Price	Yield	Yield	Growth	Growth	Growth Rate	COE
1	Atmos Energy Corporation	ATO	2.96	142.42	2.08%	2.14%	6.50%	3.90%	5.98%	8.12%
2	Northwest Natural Holding Company	NWN	1.94	40.86	4.75%	4.84%	3.67%	3.90%	3.71%	8.55%
3	ONE Gas, Inc.	OGS	2.60	73.08	3.56%	3.62%	3.50%	3.90%	3.58%	7.20%
4	Southwest Gas Holdings, Inc.	SWX	2.48	74.47	3.33%	3.45%	7.67%	3.90%	6.91%	10.36%
5	Spire Inc.	SR	2.88	67.07	4.29%	4.39%	4.83%	3.90%	4.65%	9.04%
	Average		2.57	79.58	3.60%	3.69%	5.23%	3.90%	4.97%	8.65%
								DC	F Lower Bound	7 66%

DCF Lower Bound 7.66%

DCF Upper Bound 9.70%

DCF COE 8.68%

Note:

- [2] Source: The Wall Street Journal; Monthly Average.
- [3] = [1] / [2]
- [4] = [3] x (1 + .5 x [7])
- [5] Source: [12] of Growth Rate SJW-11
- [6] Source: Congress Budget Office (CBO), Budget Economic Outlook
- [7] = (4 x [5] + [6]) / 5
- [8] = [4] + [7]

^[1] Source: The Value Line Investment Survey: Ratings & Reports.

Capital Asset Pricing Model (CAPM) Costs of Common Equity (COE) Estimates Based on Historical Return Differences Between Common Stocks and Long-Term U.S. Treasuries for the Comparable Electric Utility Companies

	2024 Q4 CAPM Estimate		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]
						Kroll, LLC (1926-2023 <u>)</u>			NYU Stern	1928-2023 <u>)</u>			Market Ris	k Premium			CAPM Cost of C	ommon Equity	
					Large Com	oany Stocks	Long-terr	n G-Bonds	S&P	500	US Treas	ury Bond	Krol	I, LLC	NYU	Stern	Krol	II, LLC	NYU	Stern
			Risk-Free		Geometric	Arithmetic	Geometric	Arithmetic	Geometric	Arithmetic	Geometric	Arithmetic	Geometric	Arithmetic	Geometric	Arithmetic	Geometric	Arithmetic	Geometric	Arithmetic
	Electric Utility Companies	Ticker	Rate	Beta	Mean Return	Mean Return	Mean Return	Mean Return	Mean Return	Mean Return	Mean Return	Mean Return	Mean Return	Mean Return	Mean Return	Mean Return	Mean Return	Mean Return	Mean Return	Mean Return
1	Atmos Energy Corporation	ATO	4.50%	0.90	10.28%	12.16%	5.73%	6.22%	9.80%	11.66%	4.57%	4.86%	4.54%	5.94%	5.23%	6.80%	8.59%	9.85%	9.20%	10.62%
2	Northwest Natural Holding Company	NWN	4.50%	0.85	10.28%	12.16%	5.73%	6.22%	9.80%	11.66%	4.57%	4.86%	4.54%	5.94%	5.23%	6.80%	8.36%	9.55%	8.94%	10.28%
3	ONE Gas, Inc.	OGS	4.50%	0.85	10.28%	12.16%	5.73%	6.22%	9.80%	11.66%	4.57%	4.86%	4.54%	5.94%	5.23%	6.80%	8.36%	9.55%	8.94%	10.28%
4	Southwest Gas Holdings, Inc.	SWX	4.50%	0.95	10.28%	12.16%	5.73%	6.22%	9.80%	11.66%	4.57%	4.86%	4.54%	5.94%	5.23%	6.80%	8.82%	10.14%	9.47%	10.96%
5	Spire Inc.	SR	4.50%	0.90	10.28%	12.16%	5.73%	6.22%	9.80%	11.66%	4.57%	4.86%	4.54%	5.94%	5.23%	6.80%	8.59%	9.85%	9.20%	10.62%
	Average		4.50%	0.89	10.28%	12.16%	5.73%	6.22%	9.80%	11.66%	4.57%	4.86%	4.54%	5.94%	5.23%	6.80%	8.54%	9.79%	9.15%	10.55%
																	CAP	M Lower Bound		8.85%

CAPM Lower Bound CAPM Upper Bound

10.17%

9.51%

CAPM COE

Note:

[1] Source: 3-Month Average of 30-Year Treasury Bond

[2] Source: Value Line, Investment Survey.

[3] Source: Kroll, LLC, the Stocks, Bonds, Bills, and Inflation (SBBI®) Monthly Dataset.

[4] Source: Kroll, LLC, the Stocks, Bonds, Bills, and Inflation (SBBI®) Monthly Dataset.

[5] Source: Kroll, LLC, the Stocks, Bonds, Bills, and Inflation (SBBI[®]) Monthly Dataset.
[6] Source: Kroll, LLC, the Stocks, Bonds, Bills, and Inflation (SBBI[®]) Monthly Dataset.

[7] Source: Risk Premium, Damodaran Online, Stern School of Business, NYU.

[8] Source: Risk Premium, Damodaran Online, Stern School of Business, NYU.

[9] Source: Risk Premium, Damodaran Online, Stern School of Business, NYU.

[10] Source: Risk Premium, Damodaran Online, Stern School of Business, NYU.

[11] = [3] - [5]

[12] = [4] - [6] [13] = [7] - [9] [14] = [8] - [10]

[15] = [1] + [2] x [11]

[16] = [1] + [2] x [12]

[17] = [1] + [2] x [13] [18] = [1] + [2] x [14]

.

	[1]		[2	2]	[3]			
	<u>Bond Y</u>	<u>ield (%)</u>	<u>Risk Prer</u>	<u>nium (%)</u>	<u>Estimate</u>	<u>d ROE (%)</u>		
<u>Month-Year</u>	<u>A</u>	<u>Baa</u>	<u>A</u>	<u>Baa</u>	<u>A</u>	<u>Baa</u>		
Jul-24	5.64	5.85	4.00	3.80	9.64	9.65		
Aug-24	5.38	5.61	4.25	4.03	9.63	9.64		
Sep-24	5.2	5.41	4.43	4.22	9.63	9.63		
Oct-24	5.41	5.61	4.22	4.03	9.63	9.64		
Nov-24	5.55	5.75	4.09	3.89	9.64	9.64		
Dec-24	5.58	5.77	4.06	3.87	9.64	9.64		
Avearge	5.46	5.67	4.17	3.97	9.63	9.64		

Bond Yield Plus Risk Premium (BYPRP) Return on Equity (ROE) Estimates Risk Premium Calculated by Authorized ROE and Utility Bond Yields

BYPRP Lower Bound	9.63
BYPRP Upper Bound	9.65
BYPRP ROE	9.64

Notes:

- [1] Mergent Bond Record, Moody's Utility Bonds Yields
- [2] = 9.47 0.97 x [1]
- [3] = [1] + [2]

Risk Premium Estimation Using Regression Analysis Plus Risk Premium (BYPRP) Return on Equity (ROE) Estimates Risk Premium as Difference Between Authorized ROE and Utility Bond Yield

SUMMARY OUTPUT

Regression Statistics						
Multiple R	0.9817					
R Square	0.9638					
Adjusted R Square	0.9636					
Standard Error	0.1681					
Observations	264					

ANOVA

	df	SS	MS	F	Significance F
Regression	1	197.0899	197.0899	6972.2041	0.0000
Residual	262	7.4062	0.0283		
Total	263	204.4961			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	9.4668	0.0527	179.7520	0.0000	9.3631	9.5705	9.3631	9.5705
X Variable 1	-0.9710	0.0116	-83.4997	0.0000	-0.9939	-0.9481	-0.9939	-0.9481

RETURN ON EQUITY

			COE Analysis		
		Lower	Mean	<u>Upper</u>	
COE Estimation	DCF	7.66%	8.68%	9.70%	А
	CAPM	8.85%	9.51%	10.17%	В
		8.25%	9.09%	9.93%	C
			ROE Analysis		
		Lower	Estimate	<u>Upper</u>	
ROE Estimation	BYPRP	9.63%	9.64%	9.65%	D
ROE Recommandation			9.64%		

Note:

A Schedule SJW-d12

^B Schedule SJW-d13

^C = ([A] + [B]) / 2

D Schedule SJW-d14-1

RATE OF RETURN

				<u>Allowed Rate of Return</u> Common Equity Return of:		
	Percentage ^[1]	Embedded	Lower	ROE ^[4]	Upper	
Capital Component	of Capital	Cost	9.39%	9.64%	9.89%	
Common Stock Equity	52.91%	-	4.97%	5.10%	5.23%	
Preferred Stock	0.56%	4.18% [2]	0.02%	0.02%	0.02%	
Long-Term Debt	46.53%	4.24% ^[3]	1.97%	1.97%	1.97%	
Total	100.0%		6.96%	7.09%	7.23%	

Note:

[1] Schedule SJW-d6

[2] Schedule SJW-d7-2

[3] Schedule SJW-d7-1

[4] Schedule SJW-d15

Authorized ROE and Equity Ratio of the U.S Utility by Sector 2010-2024

	Natural Gas Utility								
	Fully Litigated			<u>Settled</u>			<u>Natural Gas Total</u>		
<u>Year</u>	<u>ROE (%)</u>	<u>Equity (%)</u>	Case (No.)	<u>ROE (%)</u>	<u>Equity (%)</u>	Case (No.)	<u>ROE (%)</u>	Equity (%)	Case (No.)
2010	10.08	48.72	27	10.30	48.87	12	10.15	48.76	39
2011	10.39	48.17	8	10.08	51.82	8	9.92	52.33	16
2012	10.28	49.98	21	9.99	50.97	14	9.94	51.03	35
2013	9.85	48.25	12	9.80	48.53	9	9.68	50.60	21
2014	10.05	50.14	15	9.51	48.61	11	9.78	51.06	26
2015	9.66	48.98	5	9.60	49.32	11	9.60	49.94	16
2016	9.74	49.75	10	9.50	48.60	16	9.54	50.01	26
2017	9.73	49.23	7	9.68	50.63	17	9.72	50.55	24
2018	9.63	48.70	17	9.59	50.27	23	9.59	50.39	40
2019	9.58	51.07	12	9.70	52.47	21	9.72	52.29	33
2020	9.43	49.87	12	9.48	52.66	23	9.47	52.56	35
2021	9.23	50.71	13	9.53	51.02	30	9.56	50.89	43
2022	9.48	51.25	9	9.47	50.70	24	9.53	51.22	33
2023	9.64	52.10	21	9.52	51.01	22	9.64	52.19	43
2024	9.71	50.32	16	9.67	52.72	26	9.74	51.70	42

Note:

Source: S&P Global Market Intelligence, Retrieved in January 2, 2025