

3-MONTH MULTI-STAGE DCF -- MEAN GROWTH RATE

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Stock Price	Annualized Dividend	Value Line EPS Growth	Yahoo! Finance EPS Growth	Zacks EPS Growth	First Stage Growth	Second Stage Growth						Third Stage Growth
								Year 6	Year 7	Year 8	Year 9	Year 10		
ALLETE, Inc.	ALE	\$77.32	\$2.35	3.50%	6.00%	n/a	4.75%	4.88%	5.02%	5.15%	5.29%	5.42%	5.56%	8.72%
Alliant Energy Corporation	LNT	\$43.88	\$1.42	6.50%	7.25%	6.00%	6.58%	6.41%	6.24%	6.07%	5.90%	5.73%	5.56%	9.36%
Atmos Energy Corporation	ATO	\$95.45	\$2.10	7.50%	6.40%	6.50%	6.80%	6.59%	6.39%	6.18%	5.97%	5.76%	5.56%	8.15%
Black Hills Corporation	BKH	\$66.18	\$2.02	6.50%	3.63%	4.70%	4.94%	5.05%	5.15%	5.25%	5.35%	5.45%	5.56%	8.77%
CMS Energy Corporation	CMS	\$51.49	\$1.53	7.00%	6.89%	6.00%	6.63%	6.45%	6.27%	6.09%	5.91%	5.74%	5.56%	9.05%
Consolidated Edison, Inc.	ED	\$78.48	\$2.96	3.00%	2.99%	3.00%	3.00%	3.42%	3.85%	4.28%	4.70%	5.13%	5.56%	9.07%
Eversource Energy	ES	\$67.86	\$2.02	5.50%	5.88%	5.90%	5.76%	5.73%	5.69%	5.66%	5.62%	5.59%	5.56%	8.86%
FirstEnergy Corporation	FE	\$38.68	\$1.52	6.50%	Negative	6.00%	6.25%	6.13%	6.02%	5.90%	5.79%	5.67%	5.56%	10.09%
Hawaiian Electric Industries, Inc.	HE	\$37.20	\$1.28	3.50%	7.80%	6.20%	5.83%	5.79%	5.74%	5.69%	5.65%	5.60%	5.56%	9.41%
New Jersey Resources Corporation	NJR	\$47.03	\$1.17	2.50%	6.00%	7.00%	5.17%	5.23%	5.30%	5.36%	5.43%	5.49%	5.56%	8.19%
Northwest Natural Gas Company	NWN	\$62.35	\$1.90	25.50%	4.00%	4.30%	11.27%	10.31%	9.36%	8.41%	7.46%	6.51%	5.56%	10.33%
NorthWestern Corporation	NWE	\$62.91	\$2.20	2.50%	2.59%	3.10%	2.73%	3.20%	3.67%	4.14%	4.61%	5.09%	5.56%	8.75%
ONE Gas, Inc.	OGS	\$82.20	\$2.00	9.00%	5.00%	5.90%	6.63%	6.45%	6.27%	6.09%	5.92%	5.74%	5.56%	8.40%
Portland General Electric Company	POR	\$47.46	\$1.45	4.00%	4.90%	4.00%	4.30%	4.51%	4.72%	4.93%	5.14%	5.35%	5.56%	8.64%
PPL Corporation	PPL	\$30.16	\$1.64	3.00%	3.59%	5.00%	3.86%	4.15%	4.43%	4.71%	4.99%	5.27%	5.56%	11.01%
Public Service Enterprise Group Inc.	PEG	\$53.98	\$1.80	4.50%	6.11%	6.70%	5.77%	5.73%	5.70%	5.66%	5.63%	5.59%	5.56%	9.27%
Sempra Energy	SRE	\$114.29	\$3.58	9.50%	8.00%	8.20%	8.57%	8.06%	7.56%	7.06%	6.56%	6.06%	5.56%	9.72%
South Jersey Industries, Inc.	SJI	\$29.71	\$1.15	9.50%	9.50%	9.50%	9.50%	8.84%	8.19%	7.53%	6.87%	6.21%	5.56%	11.00%
Southwest Gas Corporation	SWX	\$78.75	\$2.08	8.50%	6.20%	5.00%	6.57%	6.40%	6.23%	6.06%	5.89%	5.72%	5.56%	8.64%
Spire, Inc.	SR	\$76.61	\$2.37	5.50%	2.42%	3.90%	3.94%	4.21%	4.48%	4.75%	5.02%	5.29%	5.56%	8.60%
Mean														9.20%
Median														8.96%

Notes

- [1] Source: Bloomberg Professional, equals 3-month average as of 02/28/2019
- [2] Source: Bloomberg Professional
- [3] Source: Value Line
- [4] Source: Yahoo! Finance
- [5] Source: Zacks
- [6] Equals Average ([3], [4], [5])
- [7] Equals [6] + (([12] - [6]) / 6)
- [8] Equals [7] + (([12] - [6]) / 6)
- [9] Equals [8] + (([12] - [6]) / 6)
- [10] Equals [9] + (([12] - [6]) / 6)
- [11] Equals [10] + (([12] - [6]) / 6)
- [12] Source: Exhibit (AEB-2)
- [13] Equals internal rate of return of cash flows for Year 0 through Year 200

3-MONTH MULTI-STAGE DCF -- LOW GROWTH RATE

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Stock Price	Annualized Dividend	Value Line EPS Growth	Yahoo! Finance EPS Growth	Zacks EPS Growth	First Stage Growth	Second Stage Growth				Third Stage Growth	ROE	
								Year 6	Year 7	Year 8	Year 9	Year 10		
ALLETE, Inc.	ALE	\$77.32	\$2.35	3.50%	6.00%	n/a	3.50%	3.84%	4.19%	4.53%	4.87%	5.21%	5.56%	8.46%
Alliant Energy Corporation	LNT	\$43.88	\$1.42	6.50%	7.25%	6.00%	6.00%	5.93%	5.85%	5.78%	5.70%	5.63%	5.56%	9.22%
Atmos Energy Corporation	ATO	\$95.45	\$2.10	7.50%	6.40%	6.50%	6.40%	6.26%	6.12%	5.98%	5.84%	5.70%	5.56%	8.08%
Black Hills Corporation	BKH	\$66.18	\$2.02	6.50%	3.63%	4.70%	3.63%	3.95%	4.27%	4.59%	4.91%	5.24%	5.56%	8.50%
CMS Energy Corporation	CMS	\$51.49	\$1.53	7.00%	6.89%	6.00%	6.00%	5.93%	5.85%	5.78%	5.70%	5.63%	5.56%	8.91%
Consolidated Edison, Inc.	ED	\$78.48	\$2.96	3.00%	2.99%	3.00%	2.99%	3.42%	3.85%	4.27%	4.70%	5.13%	5.56%	9.07%
Eversource Energy	ES	\$67.86	\$2.02	5.50%	5.88%	5.90%	5.50%	5.51%	5.52%	5.53%	5.54%	5.55%	5.56%	8.81%
FirstEnergy Corporation	FE	\$38.68	\$1.52	6.50%	Negative	6.00%	6.00%	5.93%	5.85%	5.78%	5.70%	5.63%	5.56%	10.02%
Hawaiian Electric Industries, Inc.	HE	\$37.20	\$1.28	3.50%	7.80%	6.20%	3.50%	3.84%	4.19%	4.53%	4.87%	5.21%	5.56%	8.86%
New Jersey Resources Corporation	NJR	\$47.03	\$1.17	2.50%	6.00%	7.00%	2.50%	3.01%	3.52%	4.03%	4.54%	5.05%	5.56%	7.74%
Northwest Natural Gas Company	NWN	\$62.35	\$1.90	25.50%	4.00%	4.30%	4.00%	4.26%	4.52%	4.78%	5.04%	5.30%	5.56%	8.57%
NorthWestern Corporation	NWE	\$62.91	\$2.20	2.50%	2.59%	3.10%	2.50%	3.01%	3.52%	4.03%	4.54%	5.05%	5.56%	8.70%
ONE Gas, Inc.	OGS	\$82.20	\$2.00	9.00%	5.00%	5.90%	5.00%	5.09%	5.19%	5.28%	5.37%	5.46%	5.56%	8.10%
Portland General Electric Company	POR	\$47.46	\$1.45	4.00%	4.90%	4.00%	4.00%	4.26%	4.52%	4.78%	5.04%	5.30%	5.56%	8.58%
PPL Corporation	PPL	\$30.16	\$1.64	3.00%	3.59%	5.00%	3.00%	3.43%	3.85%	4.28%	4.70%	5.13%	5.56%	10.72%
Public Service Enterprise Group Inc.	PEG	\$53.98	\$1.80	4.50%	6.11%	6.70%	4.50%	4.68%	4.85%	5.03%	5.20%	5.38%	5.56%	8.98%
Sempra Energy	SRE	\$114.29	\$3.58	9.50%	8.00%	8.20%	8.00%	7.59%	7.19%	6.78%	6.37%	5.96%	5.56%	9.58%
South Jersey Industries, Inc.	SJI	\$29.71	\$1.15	9.50%	9.50%	9.50%	9.50%	8.84%	8.19%	7.53%	6.87%	6.21%	5.56%	11.00%
Southwest Gas Corporation	SWX	\$78.75	\$2.08	8.50%	6.20%	5.00%	5.00%	5.09%	5.19%	5.28%	5.37%	5.46%	5.56%	8.33%
Spire, Inc.	SR	\$76.61	\$2.37	5.50%	2.42%	3.90%	2.42%	2.94%	3.47%	3.99%	4.51%	5.03%	5.56%	8.30%
Mean														8.92%
Median														8.75%

Notes

- [1] Source: Bloomberg Professional, equals 3-month average as of 02/28/2019
- [2] Source: Bloomberg Professional
- [3] Source: Value Line
- [4] Source: Yahoo! Finance
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- [6] Equals Minimum ([3], [4], [5])
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- [12] Source: Exhibit (AEB-2)
- [13] Equals internal rate of return of cash flows for Year 0 through Year 200

3-MONTH MULTI-STAGE DCF -- HIGH GROWTH RATE

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Stock Price	Annualized Dividend	Value Line EPS Growth	Yahoo! Finance EPS Growth	Zacks EPS Growth	First Stage Growth	Second Stage Growth						Third Stage Growth
								Year 6	Year 7	Year 8	Year 9	Year 10		
ALLETE, Inc.	ALE	\$77.32	\$2.35	3.50%	6.00%	n/a	6.00%	5.93%	5.85%	5.78%	5.70%	5.63%	5.56%	8.99%
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Atmos Energy Corporation	ATO	\$95.45	\$2.10	7.50%	6.40%	6.50%	7.50%	7.18%	6.85%	6.53%	6.20%	5.88%	5.56%	8.27%
Black Hills Corporation	BKH	\$66.18	\$2.02	6.50%	3.63%	4.70%	6.50%	6.34%	6.19%	6.03%	5.87%	5.71%	5.56%	9.12%
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Consolidated Edison, Inc.	ED	\$78.48	\$2.96	3.00%	2.99%	3.00%	3.00%	3.43%	3.85%	4.28%	4.70%	5.13%	5.56%	9.07%
Eversource Energy	ES	\$67.86	\$2.02	5.50%	5.88%	5.90%	5.90%	5.84%	5.79%	5.73%	5.67%	5.61%	5.56%	8.89%
FirstEnergy Corporation	FE	\$38.68	\$1.52	6.50%	Negative	6.00%	6.50%	6.34%	6.19%	6.03%	5.87%	5.71%	5.56%	10.16%
Hawaiian Electric Industries, Inc.	HE	\$37.20	\$1.28	3.50%	7.80%	6.20%	7.80%	7.43%	7.05%	6.68%	6.30%	5.93%	5.56%	9.92%
New Jersey Resources Corporation	NJR	\$47.03	\$1.17	2.50%	6.00%	7.00%	7.00%	6.76%	6.52%	6.28%	6.04%	5.80%	5.56%	8.54%
Northwest Natural Gas Company	NWN	\$62.35	\$1.90	25.50%	4.00%	4.30%	25.50%	22.18%	18.85%	15.53%	12.20%	8.88%	5.56%	15.47%
NorthWestern Corporation	NWE	\$62.91	\$2.20	2.50%	2.59%	3.10%	3.10%	3.51%	3.92%	4.33%	4.74%	5.15%	5.56%	8.83%
ONE Gas, Inc.	OGS	\$82.20	\$2.00	9.00%	5.00%	5.90%	9.00%	8.43%	7.85%	7.28%	6.70%	6.13%	5.56%	8.88%
Portland General Electric Company	POR	\$47.46	\$1.45	4.00%	4.90%	4.00%	4.90%	5.01%	5.12%	5.23%	5.34%	5.45%	5.56%	8.77%
PPL Corporation	PPL	\$30.16	\$1.64	3.00%	3.59%	5.00%	5.00%	5.09%	5.19%	5.28%	5.37%	5.46%	5.56%	11.41%
Public Service Enterprise Group Inc.	PEG	\$53.98	\$1.80	4.50%	6.11%	6.70%	6.70%	6.51%	6.32%	6.13%	5.94%	5.75%	5.56%	9.50%
Sempra Energy	SRE	\$114.29	\$3.58	9.50%	8.00%	8.20%	9.50%	8.84%	8.19%	7.53%	6.87%	6.21%	5.56%	9.97%
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Mean														9.67%
Median														9.10%

Notes

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- [12] Source: Exhibit (AEB-2)
- [13] Equals internal rate of return of cash flows for Year 0 through Year 200

CALCULATION OF LONG-TERM GDP GROWTH RATE

Step 1

Real GDP (\$ Billions) [1]	
1929	\$ 1,109.4
2018	\$ 18,571.3
Compound Annual Growth Rate	3.22%

Step 2

Consumer Price Index (YoY % Change) [2]	
2025 - 2029	2.20%
Average	2.20%

Consumer Price Index (All-Urban) [3]	
2029	3.24
2050	5.24
Compound Annual Growth Rate	2.31%

GDP Chain-type Price Index (2009=1.000) [3]	
2029	1.50
2050	2.42
Compound Annual Growth Rate	2.29%

Average Inflation Forecast **2.27%**

Long-Term GDP Growth Rate **5.56%**

Notes:

[1] Bureau of Economic Analysis, Table 1.1.6 Real Gross Domestic Product, billions of chained (2012) dollars; accessed March 8, 2019

[2] Blue Chip Financial Forecasts, Vol. 37, No. 12, December 1, 2018, at 14

[3] Energy Information Administration, Annual Energy Outlook 2019, Table 20

Quantitative Profiles

Where are we in the cycle?

12 December 2018

Mid, late, end?

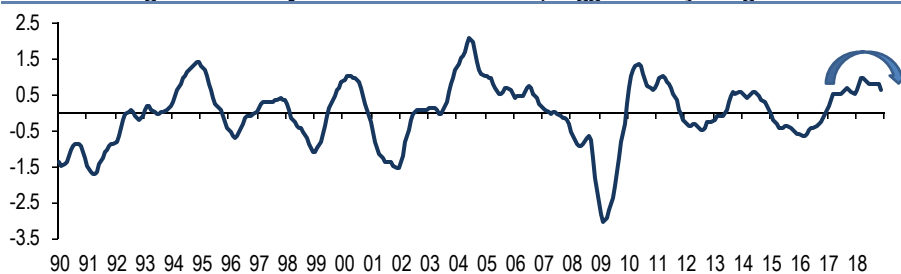
Factor rotation based on economic cycle characteristics has historically been fairly well behaved – in broad strokes, deep value/“junk” has worked well during early cycle markets, earnings and price momentum in mid-cycle, quality and large caps in late cycle and low risk at the end of a cycle. But this framework has been particularly challenging, as is evidenced in two exhibits: our US Regime indicator (Chart 1, below) which has been bouncing around between mid and late for the last six months and recently moved into late cycle, and our [economics team’s model](#) on the phase of the business cycle according to bid data (see Chart 2 on p.2) has suggested we have been in a 9-year soft-patch, an unusual anomaly relative to better behaved economic cycles. Our US Regime indicator today would argue for High Quality leadership, where our work on the VIX corroborates this call. For those concerned with an impending bear market, as we note in our Year Ahead, the best performing factors in bear markets have been Low Beta and High Dividend yield. For those expecting a violent snap back, deep value and high risk could be more fruitful. We would stick with high quality (B+ or Better) stocks (more below) for the time being.

Positioning generated 8ppt alpha in November

After a +7% decline in October, the eq-wtd S&P 500 index rebounded by 2.5% in November, but a “risk-off” mood prevailed. Factor leadership remained narrow, with two of every three factors underperforming the benchmark. The traditional “risk-on” factor groups (High Risk, Growth, and Momentum) remained the laggards (more below). High Dividend Yield, which tends to lead in declining markets, outperformed (+3.3% in Nov. / +5.0% YTD), and return-based quality factors (High ROE, ROA, ROC) were mixed, with half of them outperforming. Notably and [in keeping with](#) our work on rising volatility, stocks with B+ or Better S&P quality ranks (i.e., high quality) outperformed “B or Worse” rated stocks (i.e., low quality) by ~2ppt. Neglected stocks led in November, as Institutional Neglect (+3.1% Nov. / +1.4% YTD) and Low Analyst Coverage (+4.2% Nov., best overall / +0.4% YTD) fared well and suggests that the selloff has been driven by investors de-grossing, or taking down market exposure. The 10 stocks least owned by active managers in our mutual fund holdings report once again beat the 10 most owned stocks by a very wide (+8.4ppt) margin last month.

Screens and performance data are available in [Research Library](#) in Excel format

Chart 1: US Regime indicator (Jan. 1990–November 2018) triggers late cycle signal



Disclaimer: The indicator identified as the US Regime Indicator above is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Merrill Lynch Global Research. This indicator was not created to act as a benchmark.

Source: BofA Merrill Lynch US Equity & Quant Strategy

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Refer to important disclosures on page 66 to 68.

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Top 5 screens in November	Perf.
Analyst Coverage Neglect	4.2%
ROE (5-Yr Average)	4.1%
Small Size	3.9%
Forward Earnings Yield	3.6%
Low EPS Torpedo	3.4%
S&P 500 (Equal weighted)	2.5%

Bottom 5 screens in November	Perf.
High EPS Estimate Dispersion	-1.6%
Price Returns (12-m + 1-m Rev.)	-1.5%
Relative Strength (30w k/75wk)	-0.2%
DDM Valuation	-0.2%
High Projected 5-Yr Growth	0.2%
S&P 500 (Equal weighted)	2.5%

Disclaimer: The valuations and screens contained herein are useful in assessing comparative valuations and comparative earnings prospects and are not intended to recommend transactions relating to any specific security. These indicators should be used in investment decisions only with other factors including financial risk, investment risk, management strategies and operating and financial outlooks.

BofAML Universe Sector/Industry Factor Evaluation

	Valuation Analysis										Expectation Analysis							
	# of Comp	% Univ BOFAML	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	BofAML Adj Beta	P/E Ratio	Price/Book	Yield	Surprise	Earnings (Decile)			Est. Rev.	PR 5yr Growth	EPS Growth	
												Risk	Torp	Disp			2018E	2019E
Economic Sectors																		
Energy	122	6.45	11.9	11.7	0.2	30.2	1.09	14.0	1.71	3.7	5	8	8	8	4	16.7	75	26
Materials	56	2.85	10.2	12.5	-2.3	35.7	1.18	13.6	2.44	2.1	5	6	6	6	7	10.6	38	9
Industrials	135	8.76	11.5	11.8	-0.3	30.9	1.10	14.9	3.83	2.0	5	5	6	4	5	14.0	22	12
Consumer Discretionary	169	10.66	11.5	11.9	-0.4	31.2	1.11	20.0	5.19	1.3	5	5	5	5	4	24.9	16	6
Consumer Staples	42	6.79	9.7	8.5	1.2	34.5	0.69	19.2	4.46	2.9	7	4	3	3	6	7.4	10	5
Health Care	170	15.06	10.8	10.9	-0.1	33.6	0.99	17.5	4.16	1.5	6	6	5	3	5	13.4	19	9
Financials	148	10.73	12.1	11.5	0.6	28.1	1.06	10.7	1.46	2.7	5	3	7	3	5	11.8	27	12
Information Technology	154	19.90	11.2	12.3	-1.1	32.9	1.16	16.9	6.17	1.5	4	5	5	5	5	16.8	22	10
Communication Services	58	11.76	10.8	10.6	0.2	35.3	0.95	14.4	3.31	1.2	3	5	6	6	4	13.3	12	13
Utilities	57	3.34	9.7	6.7	3	33.4	0.47	16.8	1.90	3.3	4	5	3	2	5	7.6	14	6
Real Estate	109	3.69	9.9	8.7	1.2	32.4	0.71	18.2	2.57	3.7	5	6	3	2	6	8.7	3	5
Capitalization Sectors (\$ Million)																		
31 To 1802	244	0.89	12.7	13.0	-0.3	29.5	1.24	32.2	1.41	2.0	5	7	5	8	6	18.2	219	154
1822 To 4044	244	2.66	11.3	11.6	-0.3	32.4	1.07	14.6	1.89	2.3	6	6	6	6	6	18.4	23	16
4070 To 8807	244	5.81	11.0	11.3	-0.3	33.7	1.03	15.1	2.21	2.0	6	5	5	5	5	17.1	13	11
8932 To 21765	244	12.89	11.1	11.1	0	33.6	1.01	13.2	2.55	1.9	5	5	5	5	5	15.3	20	14
21810 To 850328	244	77.74	11.0	11.1	-0.1	32.2	1.01	16.1	3.46	2.0	5	5	6	4	5	14.1	21	10
Risk Sectors																		
-0.33 To 0.70	221	14.03	10.1	7.3	2.8	32.8	0.55	16.6	2.61	3.1	5	6	4	3	5	10.0	12	5
0.71 To 0.94	226	22.69	10.8	9.6	1.2	33.1	0.83	16.7	3.51	2.3	5	5	5	4	5	12.2	18	9
0.95 To 1.13	228	32.72	11.0	11.5	-0.5	33.3	1.05	15.0	3.23	1.7	4	4	6	5	5	12.0	19	11
1.14 To 1.34	223	19.01	11.9	12.8	-0.9	30.4	1.21	15.1	2.82	1.8	5	5	6	4	4	16.1	23	11
1.35 To 4.00	223	10.53	11.8	15.4	-3.6	31.0	1.54	15.0	3.47	1.5	4	7	6	7	5	29.9	45	18
Uncoded	99	1.01	11.5			33.2		20.4	2.08	1.5	6	10	6	7	5	27.6	133	28
DDM Alpha																		
Most Undervalued	167	11.77	13.8	11.0	2.8	24.3	1.00	14.5	2.98	1.9	4	6	6	6	4	37.0	37	22
Undervalued	167	17.95	11.5	9.2	2.3	29.2	0.78	14.5	2.63	2.5	5	5	6	3	5	12.1	20	9
Fair Value	167	18.29	11.1	10.6	0.5	31.3	0.95	15.1	3.36	2.2	6	5	5	3	5	11.5	18	8
Overvalued	167	27.50	10.9	11.8	-0.9	33.4	1.09	17.1	4.90	1.4	4	4	6	4	5	13.0	22	11
Most Overvalued	167	13.77	9.4	13.2	-3.8	40.0	1.26	16.3	2.70	1.7	6	5	6	5	5	10.4	32	9
Uncoded	385	10.72	11.5	11.0	0.5	33.2	1.00	15.7	2.09	2.9	6	6	5	6	5	7.5	3	8

Source: BofA Merrill Lynch US Equity and US Quant Strategy

Worst December on record; worst year since crisis

The selloff, which started in October, accelerated last month with the equal-weighted S&P 500 declining 10% (the worst December on our record since '86), which resulted in the worst year (-9.5%) since financial crisis. All of the factors we follow finished the year in the red, but Quality factors (-5.8%) were the best performers amid the volatile market. Momentum factors (-7.2%) were the second-best performers, and Growth (-7.9%) factors led Value (-13.7%) factors. Risk (-15.3%) was the single worst performing group amid a risk-off year. Factor breadth was the worst since financial crisis - 38% of the fundamental quantitative factors we track (excluding Momentum) beat the index in '18.

Low beta in 2018, high quality in 2019

High beta stocks were the worst performing decile of the S&P 500, and beta saw the widest return spread of the factors we track (+18ppt, based on top-bottom decile). Today, high beta stocks trade at a near record discount to low beta stocks. We expect a reversal in this trend. High quality stocks by EPS rather than price volatility also led. We expect this to persist. High quality now trades at a slight premium to low quality, and we think high quality might re-rate higher. But high quality <> low beta, and therein lies the opportunity.

Earnings surprises and revisions tended to matter in 2018

Earnings trends remained in focus in 2018 - stocks with the highest EPS estimate revisions outperformed the index by nearly 4ppt last year, and stocks with the most positive EPS surprises led by nearly 2ppt. Earnings trends are likely to remain in focus as earnings growth is slated to moderate from +23% in 2018 to +5% in 2019.

From mid to late cycle

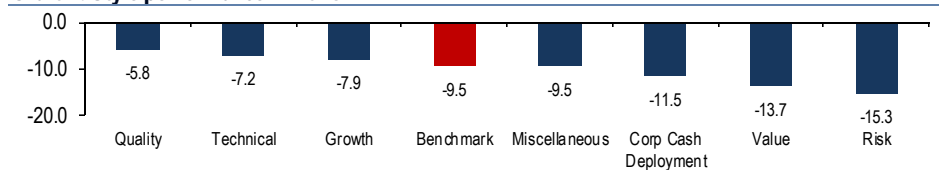
Since the start of 2017, our US Regime indicator has suggested we are in mid-cycle – a phase consistent with the outperformance of Momentum and Growth. But in 4Q18, the indicator shifted into late cycle. What works in late cycle? High quality and low-risk stocks, as well as large caps over small caps. We see risk to momentum strategies in '19 (more below.) [We believe 2019 will boil down to buying sources of cash and selling uses of cash.](#) Free cash flow (FCF) is king, and we favor FCF based valuation measures over EPS or sales based measures in late cycle. We also prefer medium-duration stocks (dividend growth stocks with room to raise payouts) over long and short duration names.

Biggest risk in 2019? Momentum

Momentum factors outperformed in 2019 and helped [active managers](#) add alpha in 2018. But Momentum exposure could be a risk in 2019: our "Rule of 25" suggests that momentum strategies typically outperform when the VIX is <25 (VIX averaged 17 last year), but lag when the VIX is >25 (where it is today). And [a flattening yield curve suggests higher volatility over the next three years.](#)

Screens and performance data are available in [Research Library](#) in Excel format

Chart 1: Style performance in 2018



Source: BofA Merrill Lynch US Equity & Quant Strategy

Equity & Quant Strategy
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Top 5 screens in 2018	Perf.
High Duration	-1.8%
ROA	-2.7%
Relative Strength (10w k/40wk)	-3.8%
Price Ret. (12-m + 1-m Reversal)	-3.9%
ROC	-4.3%
S&P 500 (Equal weighted)	-9.5%

Bottom 5 screens in 2018	Perf.
High Beta	-21.0%
Forward Earnings Yield	-18.7%
Low Price to Book Value	-17.3%
High Dividend Growth (Total Ret.)	-15.4%
Low PE to GROWTH	-15.0%
S&P 500 (Equal weighted)	-9.5%

Disclaimer: The valuations and screens contained herein are useful in assessing comparative valuations and comparative earnings prospects and are not intended to recommend transactions relating to any specific security. These indicators should be used in investment decisions only with other factors including financial risk, investment risk, management strategies and operating and financial outlooks.

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BofAML Universe Sector/Industry Factor Evaluation

	Valuation Analysis										Expectation Analysis							
	# of Comp	% Univ BOFAML	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	BofAML Adj Beta	P/E Ratio	Price/Book	Yield	Surprise	Earnings (Decile)			Est. Rev.	PR 5yr Growth	EPS Growth	
											Risk	Torp	Disp			2018E	2019E	
Economic Sectors																		
Energy	119	6.15	12.5	12.2	0.3	28.2	1.09	12.5	1.49	4.2	5	8	8	9	4	16.0	77	23
Materials	56	2.90	10.5	12.5	-2	34.2	1.12	12.7	2.25	2.3	5	6	6	6	7	10.0	38	7
Industrials	137	8.65	11.9	12.4	-0.5	29.1	1.10	13.1	3.37	2.1	5	5	6	4	5	13.9	22	12
Consumer Discretionary	168	10.70	11.8	12.3	-0.5	30.1	1.09	18.2	4.68	1.4	5	5	5	5	4	24.8	16	6
Consumer Staples	42	6.80	10.0	8.6	1.4	33.0	0.74	17.3	4.03	3.2	6	4	3	3	6	7.4	10	5
Health Care	170	15.06	11.1	11.3	-0.2	32.2	1.00	15.9	3.76	1.7	6	6	5	3	5	13.7	18	9
Financials	149	10.36	12.6	12.1	0.5	26.5	1.07	9.4	1.29	3.1	5	4	7	4	5	11.4	26	12
Information Technology	154	20.01	11.6	12.7	-1.1	31.1	1.13	15.5	5.67	1.6	4	5	5	5	5	17.0	21	9
Communication Services	58	12.08	11.0	10.6	0.4	34.4	0.93	13.3	3.07	1.3	3	5	6	6	4	13.4	12	13
Utilities	57	3.55	9.9	6.3	3.6	32.2	0.51	16	1.82	3.5	4	5	3	2	5	7.7	14	6
Real Estate	108	3.74	10.1	8.7	1.4	31.0	0.75	16.7	2.37	4.0	5	6	3	2	5	9.3	3	4
Capitalization Sectors (\$ Million)																		
35 To 1571	243	0.83	13.0	13.8	-0.8	28.0	1.24	24.7	1.07	2.3	6	7	5	8	6	15.6	nm	63
1586 To 3516	244	2.56	11.9	12.4	-0.5	30.4	1.10	12.8	1.68	2.5	6	6	6	6	6	18.7	29	17
3573 To 7794	244	5.68	11.4	11.8	-0.4	32.4	1.04	13.9	2.05	2.2	6	5	5	5	5	18.2	12	11
7827 To 19740	244	12.84	11.7	11.5	0.2	31.1	1.01	11.7	2.25	2.1	5	5	5	5	5	15.4	21	14
19740 To 785025	243	78.09	11.3	11.3	0	30.9	1.00	14.7	3.16	2.2	5	5	6	4	5	14.0	21	9
Risk Sectors																		
-0.10 To 0.76	224	17.50	10.3	7.4	2.9	32.2	0.62	16.4	2.71	3.0	5	6	4	3	5	10.6	14	6
0.77 To 0.96	223	20.87	11.3	10.0	1.3	30.9	0.87	14.2	2.96	2.5	5	6	5	4	5	11.5	19	10
0.97 To 1.12	220	30.47	11.3	11.8	-0.5	32.3	1.05	14.3	2.93	1.8	5	4	6	4	5	12.6	18	10
1.13 To 1.33	230	21.57	12.1	13.3	-1.2	28.4	1.19	12.8	2.86	2.3	5	5	6	5	5	15.0	23	10
1.34 To 3.72	223	8.65	12.7	16.7	-4	30.3	1.52	13	2.45	1.2	4	6	6	7	4	33.9	41	18
Uncoded	98	0.94	12.5			30.9		20.2	1.95	1.7	6	10	6	7	4	32.5	278	29
DDM Alpha																		
Most Undervalued	165	12.49	13.6	11.1	2.5	24.0	0.98	12.9	2.78	2.2	4	6	6	6	4	34.3	36	22
Undervalued	166	19.34	11.7	9.4	2.3	28.6	0.81	13.1	2.46	2.6	5	5	5	3	5	11.7	20	8
Fair Value	166	18.20	11.5	11.1	0.4	30.1	0.97	14.5	3.16	2.3	6	5	5	3	5	12.6	16	9
Overvalued	166	26.39	11.2	12.2	-1	31.8	1.09	15.1	4.29	1.6	4	4	6	5	5	12.4	22	10
Most Overvalued	166	13.13	9.8	13.7	-3.9	38.0	1.23	14.7	2.40	1.9	6	6	6	5	5	11.0	33	9
Uncoded	389	10.45	12.5	11.2	1.3	30.9	0.98	14.6	1.87	3.3	5	7	5	6	5	8.1	1	6

Source: BofA Merrill Lynch US Equity and US Quant Strategy

January reversal was a head-fake; Regime model says double down on large quality

Moving deeper into late cycle; buy large cap high quality

The last move in our US Regime indicator was deeper into a late cycle market environment which is typically (although not always) followed by the recession phase. (Chart 2 inside). Historically, when the regime model has fallen to these levels, the next phase has been recession 75% of the time, which occurred 2.7 months later, on avg. The styles that have historically outperformed the most during both late cycle and recession phases are Quality, Low Risk and Large Caps. While mega-caps, Low Risk and Quality were among the laggards last month, they may prove to be the best hedges if our regime indicator further deteriorates. (MTD, Quality and Large Size have outperformed.)

Reversals break Momentum - January was no exception

Momentum factors (+6.8% on avg.), which were the second best performing group in 2018, benefited least from the January rally –all of the price momentum factors that we follow lagged the index and the worst five factors in January were all Momentum measures, with +4.4% to +5.5% returns. Accordingly, “anti-momentum”, or reversals, fared well, as this group gained 14.6%. Momentum exposure could be at risk in 2019: as it tends to lag during periods of heightened volatility, where the flattening yield curve portends an [extended period of rising volatility](#).

A risk-on and deep value January

As risk assets took their cue from oversold levels and a more dovish Fed, they rushed to recover much of 2018 losses, resulting in one of the strongest monthly returns for equities – the equal weighted S&P 500 index gained 9.9%, in the top 10 best monthly returns in our history since '86. Factor groups which suffered most last year, Risk and Value, outperformed other groups in January: Risk gained +13.8%, more than other factor groups, while Value was 2nd best group with a +12.0% return. High Beta (+15.8%) gained most among Risk factors and Low Fwd P/E (+14.6%) led Value.

Quality ailed in January, but likely to resume a lead in '19

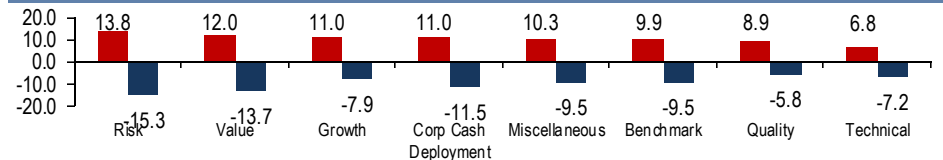
Quality, the 2018 winner, also fell victim to the sharp January reversal – this group was 2nd weakest last month with a +8.9% gain. Only High ROA (+10.1%) stocks cleared the index last month, while other quality factors lagged with +7.6% to 9.7% returns. For the whole year, high quality is likely to lead, as quality has historically been a beneficiary of [rising volatility](#) and tightening monetary policy.

Growth stocks uptrend

Growth stocks lost ground in 4Q18, but resumed their uptrend in January, and Growth was the only 2018 leader that also outperformed the index last month (+11.0% on avg.). High Projected 5-yr EPS Growth factor fared best (+14.1%, among the top five factors overall), while Long Duration (+9.1%) gained the least.

Screens and performance data are available in [Research Library](#) in Excel format

Chart 1: 2018 losers bloomed amid January reversal



Source: BofA Merrill Lynch US Equity and US Quant Strategy

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Top 5 screens in January	Perf.
High Beta	15.8%
High EPS Estimate Dispersion	14.9%
Forward Earnings Yield	14.6%
High Projected 5-Yr Growth	14.1%
Low PE to GROWTH	13.9%
S&P 500 (Equal weighted)	9.9%

Bottom 5 screens in January	Perf.
Price Returns (3-Month)	4.4%
Relative Strength (Price/200D MA)	4.4%
Relative Strength (5w k/30wk)	4.5%
Price Returns (12-m plus 1-m)	5.3%
Relative Strength (10w k/40wk)	5.5%
S&P 500 (Equal weighted)	9.9%

Disclaimer: The valuations and screens contained herein are useful in assessing comparative valuations and comparative earnings prospects and are not intended to recommend transactions relating to any specific security. These indicators should be used in investment decisions only with other factors including financial risk, investment risk, management strategies and operating and financial outlooks.

BofAML Universe Sector/Industry Factor Evaluation

	Valuation Analysis										Expectation Analysis							
	# of Comp	% Univ BOFAML	Impl. Return	Reqd Return	DDM Alpha	Eqty. Duration	BofAML Adj Beta	P/E Ratio	Price/Book	Yield	Surprise	Earnings (Decile)			PR 5yr Growth	EPS Growth		
											Risk	Torp	Disp	Est. Rev.	2018E	2019E		
Economic Sectors																		
Energy	112	6.26	11.9	12.1	-0.2	29.8	1.12	16.1	1.66	3.8	5	8	7	9	6	16.5	4	21
Materials	56	2.85	10.5	12.1	-1.6	34.6	1.12	13.7	2.36	2.2	4	6	6	6	7	9.2	5	9
Industrials	137	8.92	11.5	12.2	-0.7	30.9	1.13	14.4	3.81	1.9	5	5	6	5	5	12.5	12	12
Consumer Discretionary	166	10.81	11.7	11.9	-0.2	31.0	1.10	19.7	4.94	1.3	4	5	6	5	4	25.8	12	14
Consumer Staples	42	6.59	9.7	8.8	0.9	34.1	0.73	18.3	4.21	3.1	7	5	4	3	5	7.1	5	8
Health Care	170	14.64	10.9	11.1	-0.2	33.1	1.00	16.7	3.83	1.6	6	6	5	4	5	13.2	8	11
Financials	149	10.45	12.3	11.8	0.5	26.5	1.09	10.5	1.35	2.8	6	4	7	4	6	9.7	10	8
Information Technology	152	19.98	11.3	12.1	-0.8	32.5	1.12	17.1	5.97	1.5	5	5	5	5	5	16.0	7	11
Communication Services	58	12.24	11.0	10.9	0.1	33.9	0.97	14.4	3.37	1.2	3	6	5	6	5	14.3	14	8
Utilities	55	3.40	9.7	7.1	2.6	33.1	0.54	16.5	1.89	3.4	5	5	4	2	5	6.9	7	2
Real Estate	107	3.84	9.8	9.6	0.2	33.1	0.82	18.5	2.70	3.7	5	6	3	2	6	9.0	4	13
Capitalization Sectors (\$ Million)																		
52 To 1758	241	0.86	12.4	13.4	-1	30.2	1.28	32.3	1.36	2.2	6	7	5	8	6	16.2	17	69
1759 To 3995	241	2.66	11.5	12.4	-0.9	32.0	1.16	15.5	1.77	2.2	5	6	6	6	5	16.7	15	10
4002 To 8586	242	5.88	10.9	11.8	-0.9	34.0	1.08	14.4	2.17	2.0	6	6	5	5	5	18.4	10	10
8595 To 22184	241	13.14	11.4	11.6	-0.2	32.4	1.06	13.2	2.55	1.9	5	5	6	5	5	14.5	14	10
22347 To 807130	241	77.46	11.1	11.1	0	31.7	1.01	16.1	3.35	2.1	5	5	5	5	5	13.7	8	11
Risk Sectors																		
0.04 To 0.79	224	19.30	10.2	8.1	2.1	32.5	0.65	17.3	2.98	3.0	6	6	4	3	5	9.2	6	7
0.80 To 0.99	220	21.46	11.1	10.3	0.8	32.7	0.91	15.7	3.14	2.1	5	5	5	4	6	12.5	9	9
1.00 To 1.15	223	35.22	11.2	11.7	-0.5	32.0	1.07	15.3	3.37	1.8	5	5	6	5	5	11.5	7	9
1.16 To 1.38	224	13.68	12.0	13.2	-1.2	29.9	1.25	14.1	2.30	2.1	5	6	6	6	5	16.8	8	13
1.39 To 3.54	220	9.33	12.5	15.8	-3.3	30.2	1.55	15	2.94	1.0	4	6	6	7	5	33.3	18	19
Uncoded	95	1.01	11.1			35.2		22.4	2.37	1.4	6	10	6	7	3	37.0	44	26
DDM Alpha																		
Most Undervalued	164	16.47	13.4	10.6	2.8	23.8	0.95	13.1	2.47	2.5	4	6	6	6	4	28.6	16	12
Undervalued	165	18.39	10.8	9.4	1.4	31.3	0.80	15.7	3.42	2.5	6	5	5	3	5	10.0	6	9
Fair Value	164	24.17	11.4	11.5	-0.1	30.9	1.05	15.7	3.62	1.9	5	5	6	4	6	13.0	10	12
Overvalued	165	21.89	10.5	11.8	-1.3	34.2	1.08	16.3	3.46	1.6	5	5	6	4	5	10.3	7	7
Most Overvalued	164	9.67	9.6	13.5	-3.9	40.2	1.29	17.2	2.64	1.5	5	6	6	6	6	11.8	8	11
Uncoded	384	9.41	11.1	12.3	-1.2	35.2	1.14	17.3	2.19	2.5	6	6	5	6	5	11.0	2	14

Source: BofA Merrill Lynch US Equity and US Quant Strategy

CAPITAL ASSET PRICING MODEL

$$K = Rf + \beta (Rm - Rf)$$

	[4]	[5]	[6]	[7]	[8]
	Risk-Free Rate (Rf)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)
Proxy Group Average Bloomberg Beta					
Current 3-month average of 30-year U.S. Treasury bond yield [1]	3.05%	0.691	13.77%	10.72%	10.46%
Near-term projected 30-year U.S. Treasury bond yield (Q2 2019 - Q2 2020) [2]	3.28%	0.691	13.77%	10.49%	10.53%
Projected 30-year U.S. Treasury bond yield (2020 - 2024) [3]	3.90%	0.691	13.77%	9.87%	10.72%
				Mean:	10.57%
				Median:	10.53%
Proxy Group Average Value Line Beta					
Current 3-month average of 30-year U.S. Treasury bond yield [1]	3.05%	0.645	13.77%	10.72%	9.96%
Near-term projected 30-year U.S. Treasury bond yield (Q2 2019 - Q2 2020) [2]	3.28%	0.645	13.77%	10.49%	10.05%
Projected 30-year U.S. Treasury bond yield (2020 - 2024) [3]	3.90%	0.645	13.77%	9.87%	10.27%
				Mean:	10.09%
				Median:	10.05%

ZERO BETA CAPITAL ASSET PRICING MODEL

$$K = Rf + 0.25 (Rm - Rf) + 0.75 (\beta (Rm - Rf))$$

	[4]	[5]	[6]	[7]	[9]
	Risk-Free Rate (Rf)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)
Proxy Group Average Bloomberg Beta					
Current 3-month average of 30-year U.S. Treasury bond yield [1]	3.05%	0.691	13.77%	10.72%	11.29%
Near-term projected 30-year U.S. Treasury bond yield (Q2 2019 - Q2 2020) [2]	3.28%	0.691	13.77%	10.49%	11.34%
Projected 30-year U.S. Treasury bond yield (2020 - 2024) [3]	3.90%	0.691	13.77%	9.87%	11.48%
				Mean:	11.37%
				Median:	11.34%
Proxy Group Average Value Line Beta					
Current 3-month average of 30-year U.S. Treasury bond yield [1]	3.05%	0.645	13.77%	10.72%	10.92%
Near-term projected 30-year U.S. Treasury bond yield (Q2 2019 - Q2 2020) [2]	3.28%	0.645	13.77%	10.49%	10.98%
Projected 30-year U.S. Treasury bond yield (2020 - 2024) [3]	3.90%	0.645	13.77%	9.87%	11.14%
				Mean:	11.01%
				Median:	10.98%

Notes:

- [1] Source: Bloomberg Professional as of 2/28/2019
- [2] Source: Blue Chip Financial Forecasts, March 1, 2019 at 2
- [3] Source: Blue Chip Financial Forecasts, December 1, 2018 at 14
- [4] See Notes [1], [2], and [3]
- [5] Source: Bloomberg Professional and Value Line
- [6] Source: Bloomberg Professional
- [7] Equals [6] - [4]
- [8] Equals [4] + [5] x [7]
- [9] Equals [4] + 0.25 x [7] + 0.75 x [5] x [7]

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

[10] Estimated Weighted Average Dividend Yield	2.03%
[11] Estimated Weighted Average Long-Term Growth Rate	11.62%
[12] S&P 500 Estimated Required Market Return	13.77%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[13] Weight in Index	[14] Current Dividend Yield	[15] Cap-Weighted Dividend Yield	[16] Long-Term Growth Est.	[17] Cap-Weighted Long-Term Growth Est.
LyondellBasell Industries NV	LYB	0.13%	4.68%	0.01%	6.80%	0.01%
American Express Co	AXP	0.38%	1.45%	0.01%	14.99%	0.06%
Verizon Communications Inc	VZ	0.97%	4.23%	0.04%	2.30%	0.02%
Broadcom Inc	AVGO	0.45%	3.85%	0.02%	13.15%	0.06%
Boeing Co/The	BA	1.03%	1.87%	0.02%	15.15%	0.16%
Caterpillar Inc	CAT	0.33%	2.50%	0.01%	13.35%	0.04%
JPMorgan Chase & Co	JPM	1.42%	3.07%	0.04%	7.00%	0.10%
Chevron Corp	CVX	0.94%	3.98%	0.04%	6.36%	0.06%
Coca-Cola Co/The	KO	0.80%	3.53%	0.03%	6.72%	0.05%
AbbVie Inc	ABBV	0.48%	5.40%	0.03%	8.81%	0.04%
Walt Disney Co/The	DIS	0.70%	1.56%	0.01%	3.76%	0.03%
FleetCor Technologies Inc	FLT	0.08%	n/a	n/a	16.50%	0.01%
Extra Space Storage Inc	EXR	0.05%	3.59%	0.00%	4.39%	0.00%
Exxon Mobil Corp	XOM	1.39%	4.15%	0.06%	15.74%	0.22%
Phillips 66	PSX	0.18%	3.32%	0.01%	5.70%	0.01%
General Electric Co	GE	0.37%	0.39%	0.00%	1.60%	0.01%
HP Inc	HPQ	0.13%	3.25%	0.00%	3.08%	0.00%
Home Depot Inc/The	HD	0.87%	2.94%	0.03%	10.72%	0.09%
International Business Machines Corp	IBM	0.51%	4.55%	0.02%	0.72%	0.00%
Concho Resources Inc	CXO	0.09%	0.45%	0.00%	31.00%	0.03%
Johnson & Johnson	JNJ	1.51%	2.63%	0.04%	6.83%	0.10%
McDonald's Corp	MCD	0.58%	2.52%	0.01%	8.74%	0.05%
Merck & Co Inc	MRK	0.87%	2.71%	0.02%	8.76%	0.08%
3M Co	MMM	0.49%	2.78%	0.01%	7.70%	0.04%
American Water Works Co Inc	AWK	0.08%	1.79%	0.00%	8.45%	0.01%
Bank of America Corp	BAC	1.16%	2.06%	0.02%	9.70%	0.11%
Brighthouse Financial Inc	BHF	0.02%	n/a	n/a	11.14%	0.00%
Baker Hughes a GE Co	BHGE	0.06%	2.73%	0.00%	40.82%	0.02%
Pfizer Inc	PFE	1.00%	3.32%	0.03%	5.45%	0.05%
Procter & Gamble Co/The	PG	1.02%	2.91%	0.03%	6.51%	0.07%
AT&T Inc	T	0.94%	6.56%	0.06%	4.92%	0.05%
Travelers Cos Inc/The	TRV	0.14%	2.32%	0.00%	17.69%	0.03%
United Technologies Corp	UTX	0.45%	2.34%	0.01%	9.80%	0.04%
Analog Devices Inc	ADI	0.16%	2.02%	0.00%	11.98%	0.02%
Walmart Inc	WMT	1.19%	2.14%	0.03%	5.20%	0.06%
Cisco Systems Inc	CSCO	0.94%	2.70%	0.03%	6.84%	0.06%
Intel Corp	INTC	0.99%	2.38%	0.02%	8.54%	0.08%
General Motors Co	GM	0.23%	3.85%	0.01%	6.03%	0.01%
Microsoft Corp	MSFT	3.56%	1.64%	0.06%	11.68%	0.42%
Dollar General Corp	DG	0.13%	0.98%	0.00%	15.75%	0.02%
Cigna Corp	CI	0.27%	0.02%	0.00%	12.65%	0.03%
Kinder Morgan Inc/DE	KMI	0.18%	4.18%	0.01%	10.00%	0.02%
Citigroup Inc	C	0.62%	2.81%	0.02%	11.07%	0.07%
American International Group Inc	AIG	0.16%	2.96%	0.00%	11.00%	0.02%
Honeywell International Inc	HON	0.47%	2.13%	0.01%	7.88%	0.04%
Altria Group Inc	MO	0.41%	6.11%	0.02%	8.50%	0.03%
HCA Healthcare Inc	HCA	0.20%	1.15%	0.00%	11.56%	0.02%
Under Armour Inc	UA	0.02%	n/a	n/a	34.93%	0.01%
International Paper Co	IP	0.08%	4.36%	0.00%	6.08%	0.00%
Hewlett Packard Enterprise Co	HPE	0.09%	2.75%	0.00%	6.09%	0.01%
Abbott Laboratories	ABT	0.56%	1.65%	0.01%	11.69%	0.07%
Aflac Inc	AFL	0.15%	2.20%	0.00%	3.43%	0.01%
Air Products & Chemicals Inc	APD	0.16%	2.56%	0.00%	12.30%	0.02%
Royal Caribbean Cruises Ltd	RCL	0.10%	2.36%	0.00%	11.72%	0.01%
American Electric Power Co Inc	AEP	0.17%	3.30%	0.01%	6.08%	0.01%
Hess Corp	HES	0.07%	1.73%	0.00%	-9.49%	-0.01%
Anadarko Petroleum Corp	APC	0.09%	2.76%	0.00%	23.31%	0.02%
Aon PLC	AON	0.17%	0.93%	0.00%	10.90%	0.02%
Apache Corp	APA	0.05%	3.01%	0.00%	-5.19%	0.00%
Archer-Daniels-Midland Co	ADM	0.10%	3.29%	0.00%	1.40%	0.00%
Automatic Data Processing Inc	ADP	0.28%	2.07%	0.01%	14.00%	0.04%
Verisk Analytics Inc	VRSK	0.09%	0.79%	0.00%	9.57%	0.01%
AutoZone Inc	AZO	0.10%	n/a	n/a	13.22%	0.01%
Avery Dennison Corp	AVY	0.04%	1.93%	0.00%	5.75%	0.00%
MSCI Inc	MSCI	0.06%	1.26%	0.00%	13.10%	0.01%
Ball Corp	BLL	0.08%	0.73%	0.00%	6.50%	0.00%
Bank of New York Mellon Corp/The	BK	0.21%	2.13%	0.00%	7.33%	0.02%
Baxter International Inc	BAX	0.16%	1.02%	0.00%	12.20%	0.02%
Becton Dickinson and Co	BDX	0.28%	1.24%	0.00%	12.41%	0.03%
Berkshire Hathaway Inc	BRK/B	1.14%	n/a	n/a	-1.60%	-0.02%
Best Buy Co Inc	BBY	0.08%	2.91%	0.00%	10.65%	0.01%
H&R Block Inc	HRB	0.02%	4.14%	0.00%	10.00%	0.00%
Boston Scientific Corp	BSX	0.23%	n/a	n/a	33.46%	0.08%
Bristol-Myers Squibb Co	BMJ	0.35%	3.17%	0.01%	11.02%	0.04%
Fortune Brands Home & Security Inc	FBHS	0.03%	1.87%	0.00%	9.97%	0.00%
Brown-Forman Corp	BF/B	0.06%	1.34%	0.00%	9.86%	0.01%
Cabot Oil & Gas Corp	COG	0.04%	1.14%	0.00%	26.58%	0.01%
Campbell Soup Co	CPB	0.04%	3.89%	0.00%	1.75%	0.00%
Kansas City Southern	KSU	0.05%	1.33%	0.00%	8.97%	0.00%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[13] Weight in Index	[14] Current Dividend Yield	[15] Cap-Weighted Dividend Yield	[16] Long-Term Growth Est.	[17] Cap-Weighted Long-Term Growth Est.
Hilton Worldwide Holdings Inc	HLT	0.10%	0.72%	0.00%	13.62%	0.01%
Carnival Corp	CCL	0.13%	3.46%	0.00%	10.93%	0.01%
Qorvo Inc	QRVO	0.04%	n/a	n/a	11.83%	0.00%
CenturyLink Inc	CTL	0.06%	16.38%	0.01%	-2.80%	0.00%
UDR Inc	UDR	0.05%	2.90%	0.00%	5.54%	0.00%
Clorox Co/The	CLX	0.08%	2.43%	0.00%	4.91%	0.00%
CMS Energy Corp	CMS	0.06%	2.81%	0.00%	6.61%	0.00%
Newell Brands Inc	NWL	0.03%	5.67%	0.00%	-11.86%	0.00%
Colgate-Palmolive Co	CL	0.24%	2.55%	0.01%	6.24%	0.01%
Comerica Inc	CMA	0.06%	3.08%	0.00%	16.41%	0.01%
IPG Photonics Corp	IPGP	0.03%	n/a	n/a	12.00%	0.00%
Conagra Brands Inc	CAG	0.05%	3.64%	0.00%	8.00%	0.00%
Consolidated Edison Inc	ED	0.11%	3.59%	0.00%	3.73%	0.00%
SL Green Realty Corp	SLG	0.03%	3.75%	0.00%	-0.59%	0.00%
Corning Inc	GLW	0.11%	2.30%	0.00%	10.39%	0.01%
Cummins Inc	CMI	0.10%	2.96%	0.00%	6.81%	0.01%
Danaher Corp	DHR	0.38%	0.50%	0.00%	9.01%	0.03%
Target Corp	TGT	0.16%	3.52%	0.01%	6.35%	0.01%
Deere & Co	DE	0.22%	1.85%	0.00%	10.39%	0.02%
Dominion Energy Inc	D	0.25%	4.95%	0.01%	5.72%	0.01%
Dover Corp	DOV	0.05%	2.12%	0.00%	10.97%	0.01%
Alliant Energy Corp	LNT	0.04%	3.10%	0.00%	6.29%	0.00%
Duke Energy Corp	DUK	0.27%	4.14%	0.01%	4.97%	0.01%
Regency Centers Corp	REG	0.05%	3.59%	0.00%	4.78%	0.00%
Eaton Corp PLC	ETN	0.14%	3.56%	0.00%	9.23%	0.01%
Ecolab Inc	ECL	0.20%	1.09%	0.00%	13.43%	0.03%
PerkinElmer Inc	PKI	0.04%	0.30%	0.00%	15.49%	0.01%
Emerson Electric Co	EMR	0.17%	2.88%	0.00%	8.95%	0.02%
EOG Resources Inc	EOG	0.23%	0.94%	0.00%	11.57%	0.03%
Entergy Corp	ETR	0.07%	3.90%	0.00%	-0.96%	0.00%
Equifax Inc	EFX	0.05%	1.42%	0.00%	7.16%	0.00%
IQVIA Holdings Inc	IQV	0.11%	n/a	n/a	16.28%	0.02%
Gartner Inc	IT	0.05%	n/a	n/a	14.02%	0.01%
FedEx Corp	FDX	0.20%	1.44%	0.00%	14.25%	0.03%
Macy's Inc	M	0.03%	6.09%	0.00%	1.67%	0.00%
FMC Corp	FMC	0.05%	1.79%	0.00%	10.27%	0.01%
Ford Motor Co	F	0.14%	6.84%	0.01%	-0.70%	0.00%
NextEra Energy Inc	NEE	0.37%	2.66%	0.01%	4.90%	0.02%
Franklin Resources Inc	BEN	0.07%	3.19%	0.00%	10.00%	0.01%
Freeport-McMoRan Inc	FCX	0.08%	1.55%	0.00%	-12.55%	-0.01%
Gap Inc/The	GPS	0.04%	3.82%	0.00%	8.63%	0.00%
General Dynamics Corp	GD	0.20%	2.19%	0.00%	10.09%	0.02%
General Mills Inc	GIS	0.12%	4.16%	0.00%	6.43%	0.01%
Genuine Parts Co	GPC	0.07%	2.80%	0.00%	8.99%	0.01%
Atmos Energy Corp	ATO	0.05%	2.12%	0.00%	6.50%	0.00%
WW Grainger Inc	GWW	0.07%	1.79%	0.00%	12.47%	0.01%
Halliburton Co	HAL	0.11%	2.35%	0.00%	30.08%	0.03%
Harley-Davidson Inc	HOG	0.02%	4.04%	0.00%	10.30%	0.00%
Harris Corp	HRS	0.08%	1.66%	0.00%	7.00%	0.01%
HCP Inc	HCP	0.06%	4.81%	0.00%	3.23%	0.00%
Helmerich & Payne Inc	HP	0.02%	5.24%	0.00%	96.36%	0.02%
Fortive Corp	FTV	0.11%	0.34%	0.00%	13.89%	0.02%
Hershey Co/The	HSY	0.07%	2.61%	0.00%	8.00%	0.01%
Synchrony Financial	SYF	0.10%	2.58%	0.00%	1.55%	0.00%
Hormel Foods Corp	HRL	0.10%	1.94%	0.00%	5.80%	0.01%
Arthur J Gallagher & Co	AJG	0.06%	2.14%	0.00%	10.17%	0.01%
Mondelez International Inc	MDLZ	0.28%	2.21%	0.01%	7.33%	0.02%
CenterPoint Energy Inc	CNP	0.06%	3.82%	0.00%	6.92%	0.00%
Humana Inc	HUM	0.16%	0.77%	0.00%	14.11%	0.02%
Willis Towers Watson PLC	WLTW	0.09%	1.51%	0.00%	10.00%	0.01%
Illinois Tool Works Inc	ITW	0.20%	2.78%	0.01%	7.27%	0.01%
Ingersoll-Rand PLC	IR	0.11%	2.01%	0.00%	9.92%	0.01%
Foot Locker Inc	FL	0.03%	2.55%	0.00%	6.24%	0.00%
Interpublic Group of Cos Inc/The	IPG	0.04%	4.08%	0.00%	13.93%	0.01%
International Flavors & Fragrances Inc	IFF	0.06%	2.29%	0.00%	4.00%	0.00%
Jacobs Engineering Group Inc	JEC	0.04%	0.92%	0.00%	13.57%	0.01%
Hanesbrands Inc	HBI	0.03%	3.23%	0.00%	3.72%	0.00%
Kellogg Co	K	0.08%	3.98%	0.00%	3.68%	0.00%
Broadridge Financial Solutions Inc	BR	0.05%	1.92%	0.00%	10.00%	0.00%
Perrigo Co PLC	PRGO	0.03%	1.56%	0.00%	1.17%	0.00%
Kimberly-Clark Corp	KMB	0.17%	3.53%	0.01%	6.09%	0.01%
Kimco Realty Corp	KIM	0.03%	6.37%	0.00%	3.86%	0.00%
Kohl's Corp	KSS	0.05%	3.61%	0.00%	10.60%	0.00%
Oracle Corp	ORCL	0.77%	1.46%	0.01%	7.54%	0.06%
Kroger Co/The	KR	0.10%	1.91%	0.00%	6.43%	0.01%
Leggett & Platt Inc	LEG	0.02%	3.35%	0.00%	10.00%	0.00%
Lennar Corp	LEN	0.06%	0.33%	0.00%	12.74%	0.01%
Jefferies Financial Group Inc	JEF	0.03%	2.47%	0.00%	n/a	n/a
Eli Lilly & Co	LLY	0.54%	2.04%	0.01%	10.72%	0.06%
L Brands Inc	LB	0.03%	4.59%	0.00%	10.72%	0.00%
Charter Communications Inc	CHTR	0.32%	n/a	n/a	41.16%	0.13%
Lincoln National Corp	LNC	0.05%	2.37%	0.00%	9.00%	0.00%
Loews Corp	L	0.06%	0.53%	0.00%	n/a	n/a
Lowe's Cos Inc	LOW	0.35%	1.83%	0.01%	15.80%	0.06%
Host Hotels & Resorts Inc	HST	0.06%	4.08%	0.00%	4.57%	0.00%
Marsh & McLennan Cos Inc	MMC	0.19%	1.78%	0.00%	11.80%	0.02%
Masco Corp	MAS	0.05%	1.28%	0.00%	12.50%	0.01%
Mattel Inc	MAT	0.02%	n/a	n/a	10.00%	0.00%
S&P Global Inc	SPGI	0.21%	1.14%	0.00%	11.05%	0.02%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[13] Weight in Index	[14] Current Dividend Yield	[15] Cap-Weighted Dividend Yield	[16] Long-Term Growth Est.	[17] Cap-Weighted Long-Term Growth Est.
Medtronic PLC	MDT	0.50%	2.21%	0.01%	7.70%	0.04%
CVS Health Corp	CVS	0.31%	3.46%	0.01%	8.68%	0.03%
DowDuPont Inc	DWDP	0.50%	2.86%	0.01%	6.17%	0.03%
Micron Technology Inc	MU	0.19%	n/a	n/a	-3.30%	-0.01%
Motorola Solutions Inc	MSI	0.10%	1.59%	0.00%	4.10%	0.00%
Choe Global Markets Inc	CBOE	0.04%	1.29%	0.00%	13.46%	0.01%
Mylan NV	MYL	0.06%	n/a	n/a	5.98%	0.00%
Laboratory Corp of America Holdings	LH	0.06%	n/a	n/a	7.61%	0.00%
Newmont Mining Corp	NEM	0.08%	1.64%	0.00%	14.10%	0.01%
Twenty-First Century Fox Inc	FOXA	0.22%	0.71%	0.00%	2.66%	0.01%
NIKE Inc	NIKE	0.45%	1.03%	0.00%	18.34%	0.08%
NiSource Inc	NI	0.04%	2.97%	0.00%	5.75%	0.00%
Noble Energy Inc	NBL	0.04%	1.99%	0.00%	14.55%	0.01%
Norfolk Southern Corp	NSC	0.20%	1.92%	0.00%	13.97%	0.03%
Principal Financial Group Inc	PFJ	0.06%	4.10%	0.00%	4.16%	0.00%
Eversource Energy	ES	0.09%	3.07%	0.00%	5.62%	0.01%
Northrop Grumman Corp	NOC	0.20%	1.66%	0.00%	8.89%	0.02%
Wells Fargo & Co	WFC	0.94%	3.61%	0.03%	11.26%	0.11%
Nucor Corp	NUE	0.08%	2.64%	0.00%	0.85%	0.00%
PVH Corp	PVH	0.04%	0.13%	0.00%	11.03%	0.00%
Occidental Petroleum Corp	OXY	0.21%	4.72%	0.01%	-0.50%	0.00%
Omnicom Group Inc	OMC	0.07%	3.43%	0.00%	5.22%	0.00%
ONEOK Inc	OKE	0.11%	5.35%	0.01%	16.89%	0.02%
Raymond James Financial Inc	RJF	0.05%	1.65%	0.00%	12.30%	0.01%
Parker-Hannifin Corp	PH	0.09%	1.73%	0.00%	9.52%	0.01%
Rollins Inc	ROL	0.05%	1.06%	0.00%	10.00%	0.01%
PPL Corp	PPL	0.10%	5.13%	0.00%	6.17%	0.01%
Exelon Corp	EXC	0.19%	2.98%	0.01%	4.12%	0.01%
ConocoPhillips	COP	0.32%	1.80%	0.01%	6.00%	0.02%
PulteGroup Inc	PHM	0.03%	1.63%	0.00%	7.17%	0.00%
Pinnacle West Capital Corp	PNW	0.04%	3.15%	0.00%	5.18%	0.00%
PNC Financial Services Group Inc/The	PNC	0.24%	3.02%	0.01%	7.37%	0.02%
PPG Industries Inc	PPG	0.11%	1.71%	0.00%	7.49%	0.01%
Progressive Corp/The	PGR	0.18%	0.55%	0.00%	8.00%	0.01%
Public Service Enterprise Group Inc	PEG	0.12%	3.20%	0.00%	6.73%	0.01%
Raytheon Co	RTN	0.22%	1.86%	0.00%	10.03%	0.02%
Robert Half International Inc	RHI	0.03%	1.82%	0.00%	9.25%	0.00%
Edison International	EIX	0.08%	4.09%	0.00%	5.34%	0.00%
Schlumberger Ltd	SLB	0.25%	4.54%	0.01%	33.69%	0.09%
Charles Schwab Corp/The	SCHW	0.25%	1.48%	0.00%	19.78%	0.05%
Sherwin-Williams Co/The	SHW	0.17%	1.04%	0.00%	10.74%	0.02%
JM Smucker Co/The	SJM	0.05%	3.21%	0.00%	3.20%	0.00%
Snap-on Inc	SNA	0.04%	2.38%	0.00%	7.93%	0.00%
AMETEK Inc	AME	0.07%	0.70%	0.00%	8.98%	0.01%
Southern Co/The	SO	0.21%	4.83%	0.01%	3.38%	0.01%
BB&T Corp	BBT	0.16%	3.18%	0.01%	9.85%	0.02%
Southwest Airlines Co	LUV	0.13%	1.14%	0.00%	10.01%	0.01%
Stanley Black & Decker Inc	SWK	0.08%	1.99%	0.00%	10.50%	0.01%
Public Storage	PSA	0.15%	3.78%	0.01%	5.26%	0.01%
Arista Networks Inc	ANET	0.09%	n/a	n/a	21.64%	0.02%
SunTrust Banks Inc	STI	0.12%	3.08%	0.00%	8.04%	0.01%
Sysco Corp	SYF	0.14%	2.31%	0.00%	12.50%	0.02%
Texas Instruments Inc	TXN	0.41%	2.91%	0.01%	10.48%	0.04%
Textron Inc	TXT	0.05%	0.15%	0.00%	12.56%	0.01%
Thermo Fisher Scientific Inc	TMO	0.43%	0.29%	0.00%	12.00%	0.05%
Tiffany & Co	TIF	0.05%	2.31%	0.00%	10.53%	0.01%
TJX Cos Inc/The	TJX	0.26%	1.79%	0.00%	11.57%	0.03%
Torchmark Corp	TMK	0.04%	0.78%	0.00%	7.53%	0.00%
Total System Services Inc	TSS	0.07%	0.55%	0.00%	12.14%	0.01%
Johnson Controls International plc	JCI	0.13%	2.95%	0.00%	7.63%	0.01%
Ulta Beauty Inc	ULTA	0.08%	n/a	n/a	21.00%	0.02%
Union Pacific Corp	UNP	0.50%	2.10%	0.01%	13.86%	0.07%
Keysight Technologies Inc	KEYS	0.07%	n/a	n/a	17.00%	0.01%
UnitedHealth Group Inc	UNH	0.96%	1.49%	0.01%	13.73%	0.13%
Unum Group	UNM	0.03%	2.78%	0.00%	9.00%	0.00%
Marathon Oil Corp	MRO	0.06%	1.20%	0.00%	0.45%	0.00%
Varian Medical Systems Inc	VAR	0.05%	n/a	n/a	16.10%	0.01%
Ventas Inc	VTR	0.09%	5.05%	0.00%	2.08%	0.00%
VF Corp	VFC	0.14%	2.34%	0.00%	-16.64%	-0.02%
Vornado Realty Trust	VNO	0.05%	3.92%	0.00%	0.74%	0.00%
Vulcan Materials Co	VMC	0.06%	1.11%	0.00%	15.34%	0.01%
Weyerhaeuser Co	WY	0.08%	5.46%	0.00%	8.70%	0.01%
Whirlpool Corp	WHR	0.04%	3.25%	0.00%	5.75%	0.00%
Williams Cos Inc/The	WMB	0.13%	5.70%	0.01%	3.90%	0.01%
WEC Energy Group Inc	WEC	0.10%	3.09%	0.00%	4.89%	0.00%
Xerox Corp	XRJ	0.03%	3.24%	0.00%	-0.10%	0.00%
Adobe Inc	ADBE	0.53%	n/a	n/a	17.16%	0.09%
AES Corp/VA	AES	0.05%	3.17%	0.00%	7.67%	0.00%
Amgen Inc	AMGN	0.49%	3.05%	0.01%	5.83%	0.03%
Apple Inc	AAPL	3.38%	1.69%	0.06%	9.40%	0.32%
Autodesk Inc	ADSK	0.15%	n/a	n/a	54.78%	0.08%
Cintas Corp	CTAS	0.09%	0.99%	0.00%	12.02%	0.01%
Comcast Corp	CMCSA	0.72%	2.17%	0.02%	11.03%	0.08%
Molson Coors Brewing Co	TAP	0.05%	2.66%	0.00%	0.26%	0.00%
KLA-Tencor Corp	KLAC	0.08%	2.60%	0.00%	8.58%	0.01%
Marriott International Inc/MD	MAR	0.18%	1.31%	0.00%	12.10%	0.02%
McCormick & Co Inc/MD	MKC	0.07%	1.68%	0.00%	6.10%	0.00%
Nordstrom Inc	JWN	0.03%	3.13%	0.00%	10.55%	0.00%
PACCAR Inc	PCAR	0.10%	1.89%	0.00%	6.10%	0.01%

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Name	Ticker	[13] Weight in Index	[14] Current Dividend Yield	[15] Cap-Weighted Dividend Yield	[16] Long-Term Growth Est.	[17] Cap-Weighted Long-Term Growth Est.
Costco Wholesale Corp	COST	0.40%	1.04%	0.00%	10.58%	0.04%
First Republic Bank/CA	FRC	0.07%	0.69%	0.00%	12.39%	0.01%
Stryker Corp	SYK	0.29%	1.10%	0.00%	8.72%	0.03%
Tyson Foods Inc	TSN	0.08%	2.43%	0.00%	-5.00%	0.00%
Lamb Weston Holdings Inc	LW	0.04%	1.15%	0.00%	11.02%	0.00%
Applied Materials Inc	AMAT	0.15%	2.09%	0.00%	9.23%	0.01%
American Airlines Group Inc	AAL	0.07%	1.12%	0.00%	15.20%	0.01%
Cardinal Health Inc	CAH	0.07%	3.51%	0.00%	4.77%	0.00%
Celgene Corp	CELG	0.24%	n/a	n/a	20.70%	0.05%
Cerner Corp	CERN	0.08%	n/a	n/a	13.20%	0.01%
Cincinnati Financial Corp	CINF	0.06%	2.58%	0.00%	n/a	n/a
DR Horton Inc	DHI	0.06%	1.54%	0.00%	11.80%	0.01%
Flowserve Corp	FLS	0.02%	1.71%	0.00%	13.05%	0.00%
Electronic Arts Inc	EA	0.12%	n/a	n/a	11.87%	0.01%
Expeditors International of Washington Inc	EXPD	0.05%	1.20%	0.00%	7.70%	0.00%
Fastenal Co	FAST	0.07%	2.73%	0.00%	14.85%	0.01%
M&T Bank Corp	MTB	0.10%	2.31%	0.00%	7.98%	0.01%
Xcel Energy Inc	XEL	0.12%	2.95%	0.00%	5.89%	0.01%
Fiserv Inc	FISV	0.14%	n/a	n/a	7.40%	0.01%
Fifth Third Bancorp	FITB	0.08%	3.19%	0.00%	3.95%	0.00%
Gilead Sciences Inc	GILD	0.34%	3.88%	0.01%	-1.48%	-0.01%
Hasbro Inc	HAS	0.04%	3.20%	0.00%	10.67%	0.00%
Huntington Bancshares Inc/OH	HBAN	0.06%	3.89%	0.00%	8.20%	0.01%
Welltower Inc	WELL	0.12%	4.68%	0.01%	6.74%	0.01%
Biogen Inc	BIIB	0.27%	n/a	n/a	5.08%	0.01%
Northern Trust Corp	NTRS	0.08%	2.58%	0.00%	10.65%	0.01%
Packaging Corp of America	PKG	0.04%	3.31%	0.00%	8.25%	0.00%
Paychex Inc	PAYX	0.11%	2.91%	0.00%	9.25%	0.01%
People's United Financial Inc	PBCT	0.03%	3.94%	0.00%	2.00%	0.00%
QUALCOMM Inc	QCOM	0.27%	4.65%	0.01%	11.71%	0.03%
Roper Technologies Inc	ROP	0.14%	0.57%	0.00%	11.33%	0.02%
Ross Stores Inc	ROST	0.15%	0.95%	0.00%	10.50%	0.02%
IDEXX Laboratories Inc	IDXX	0.08%	n/a	n/a	18.66%	0.01%
Starbucks Corp	SBUX	0.36%	2.05%	0.01%	13.22%	0.05%
KeyCorp	KEY	0.07%	3.85%	0.00%	13.17%	0.01%
State Street Corp	STT	0.11%	2.62%	0.00%	8.69%	0.01%
Norwegian Cruise Line Holdings Ltd	NCLH	0.05%	n/a	n/a	12.53%	0.01%
US Bancorp	USB	0.34%	2.86%	0.01%	6.70%	0.02%
AO Smith Corp	AOS	0.03%	1.69%	0.00%	9.33%	0.00%
Symantec Corp	SYMC	0.06%	1.33%	0.00%	7.50%	0.00%
T Rowe Price Group Inc	TROW	0.10%	3.03%	0.00%	4.27%	0.00%
Waste Management Inc	WM	0.18%	2.02%	0.00%	8.03%	0.01%
CBS Corp	CBS	0.07%	1.43%	0.00%	14.79%	0.01%
Allergan PLC	AGN	0.19%	2.15%	0.00%	5.57%	0.01%
Constellation Brands Inc	STZ	0.12%	1.75%	0.00%	8.92%	0.01%
Xilinx Inc	XLNX	0.13%	1.15%	0.00%	9.33%	0.01%
DENTSPLY SIRONA Inc	XRAY	0.04%	0.84%	0.00%	6.90%	0.00%
Zions Bancorp NA	ZION	0.04%	2.35%	0.00%	6.78%	0.00%
Alaska Air Group Inc	ALK	0.03%	2.27%	0.00%	25.37%	0.01%
Invesco Ltd	IVZ	0.03%	6.20%	0.00%	4.30%	0.00%
Linde PLC	LIN	0.39%	2.02%	0.01%	19.10%	0.07%
Intuit Inc	INTU	0.27%	0.76%	0.00%	15.82%	0.04%
Morgan Stanley	MS	0.30%	2.86%	0.01%	13.50%	0.04%
Microchip Technology Inc	MCHP	0.09%	1.68%	0.00%	12.39%	0.01%
Chubb Ltd	CB	0.25%	2.18%	0.01%	10.00%	0.03%
Hologic Inc	HOLX	0.06%	n/a	n/a	3.10%	0.00%
Citizens Financial Group Inc	CFG	0.07%	3.47%	0.00%	16.69%	0.01%
O'Reilly Automotive Inc	ORLY	0.12%	n/a	n/a	15.58%	0.02%
Allstate Corp/The	ALL	0.13%	2.12%	0.00%	7.10%	0.01%
FLIR Systems Inc	FLIR	0.03%	1.32%	0.00%	n/a	n/a
Equity Residential	EQR	0.11%	2.93%	0.00%	6.28%	0.01%
BorgWarner Inc	BWA	0.03%	1.67%	0.00%	5.78%	0.00%
Incyte Corp	INCY	0.08%	n/a	n/a	47.53%	0.04%
Simon Property Group Inc	SPG	0.23%	4.53%	0.01%	5.23%	0.01%
Eastman Chemical Co	EMN	0.05%	3.00%	0.00%	6.73%	0.00%
Twitter Inc	TWTR	0.10%	n/a	n/a	37.35%	0.04%
AvalonBay Communities Inc	AVB	0.11%	3.12%	0.00%	6.01%	0.01%
Prudential Financial Inc	PRU	0.16%	4.17%	0.01%	9.00%	0.01%
United Parcel Service Inc	UPS	0.32%	3.48%	0.01%	8.96%	0.03%
Apartment Investment & Management Co	AIV	0.03%	3.29%	0.00%	5.75%	0.00%
Walgreens Boots Alliance Inc	WBA	0.28%	2.47%	0.01%	9.77%	0.03%
McKesson Corp	MCK	0.10%	1.23%	0.00%	8.08%	0.01%
Lockheed Martin Corp	LMT	0.36%	2.84%	0.01%	7.61%	0.03%
AmerisourceBergen Corp	ABC	0.07%	1.92%	0.00%	8.70%	0.01%
Capital One Financial Corp	COF	0.16%	1.91%	0.00%	4.77%	0.01%
Waters Corp	WAT	0.07%	n/a	n/a	11.48%	0.01%
Dollar Tree Inc	DLTR	0.09%	n/a	n/a	9.96%	0.01%
Darden Restaurants Inc	DRI	0.06%	2.68%	0.00%	10.31%	0.01%
NetApp Inc	NTAP	0.07%	2.45%	0.00%	13.23%	0.01%
Citrix Systems Inc	CTXS	0.06%	1.33%	0.00%	11.85%	0.01%
DXC Technology Co	DXC	0.07%	1.15%	0.00%	6.70%	0.00%
DaVita Inc	DVA	0.04%	n/a	n/a	19.15%	0.01%
Hartford Financial Services Group Inc/The	HIG	0.07%	2.43%	0.00%	9.50%	0.01%
Iron Mountain Inc	IRM	0.04%	6.90%	0.00%	7.16%	0.00%
Estee Lauder Cos Inc/The	EL	0.14%	1.10%	0.00%	12.38%	0.02%
Cadence Design Systems Inc	CDNS	0.07%	n/a	n/a	10.35%	0.01%
Universal Health Services Inc	UHS	0.05%	0.29%	0.00%	9.54%	0.00%
E*TRADE Financial Corp	ETFC	0.05%	1.14%	0.00%	12.08%	0.01%
Skyworks Solutions Inc	SWKS	0.06%	1.86%	0.00%	8.87%	0.01%

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Name	Ticker	[13] Weight in Index	[14] Current Dividend Yield	[15] Cap-Weighted Dividend Yield	[16] Long-Term Growth Est.	[17] Cap-Weighted Long-Term Growth Est.
National Oilwell Varco Inc	NOV	0.04%	0.71%	0.00%	77.76%	0.03%
Quest Diagnostics Inc	DGX	0.05%	2.45%	0.00%	6.92%	0.00%
Activision Blizzard Inc	ATVI	0.13%	0.88%	0.00%	6.65%	0.01%
Rockwell Automation Inc	ROK	0.09%	2.17%	0.00%	8.94%	0.01%
Kraft Heinz Co/The	KHC	0.17%	4.82%	0.01%	2.60%	0.00%
American Tower Corp	AMT	0.32%	1.91%	0.01%	15.31%	0.05%
HollyFrontier Corp	HFC	0.04%	2.58%	0.00%	7.07%	0.00%
Regeneron Pharmaceuticals Inc	REGN	0.19%	n/a	n/a	13.88%	0.03%
Amazon.com Inc	AMZN	3.34%	n/a	n/a	37.60%	1.25%
Jack Henry & Associates Inc	JKHY	0.04%	1.21%	0.00%	11.00%	0.00%
Ralph Lauren Corp	RL	0.03%	2.00%	0.00%	6.84%	0.00%
Boston Properties Inc	BXP	0.08%	2.86%	0.00%	6.24%	0.01%
Amphenol Corp	APH	0.12%	0.98%	0.00%	10.64%	0.01%
Arconic Inc	ARNC	0.04%	0.43%	0.00%	14.35%	0.01%
Pioneer Natural Resources Co	PXD	0.10%	0.45%	0.00%	26.85%	0.03%
Valero Energy Corp	VLO	0.14%	4.41%	0.01%	19.17%	0.03%
Synopsys Inc	SNPS	0.06%	n/a	n/a	14.50%	0.01%
L3 Technologies Inc	LLL	0.07%	1.61%	0.00%	5.00%	0.00%
Western Union Co/The	WU	0.03%	4.48%	0.00%	5.00%	0.00%
CH Robinson Worldwide Inc	CHRW	0.05%	2.21%	0.00%	9.07%	0.00%
Accenture PLC	ACN	0.43%	1.81%	0.01%	10.27%	0.04%
TransDigm Group Inc	TDG	0.10%	n/a	n/a	11.07%	0.01%
Yum! Brands Inc	YUM	0.12%	1.78%	0.00%	13.12%	0.02%
Prologis Inc	PLD	0.18%	3.03%	0.01%	6.87%	0.01%
FirstEnergy Corp	FE	0.09%	3.73%	0.00%	-0.02%	0.00%
VeriSign Inc	VRSN	0.09%	n/a	n/a	8.80%	0.01%
Quanta Services Inc	PWR	0.02%	0.45%	0.00%	25.00%	0.01%
Henry Schein Inc	HSIC	0.04%	n/a	n/a	7.11%	0.00%
Ameren Corp	AEE	0.07%	2.67%	0.00%	6.70%	0.00%
ANSYS Inc	ANSS	0.06%	n/a	n/a	10.37%	0.01%
NVIDIA Corp	NVDA	0.39%	0.41%	0.00%	7.86%	0.03%
Sealed Air Corp	SEE	0.03%	1.47%	0.00%	6.04%	0.00%
Cognizant Technology Solutions Corp	CTSH	0.17%	1.13%	0.00%	11.40%	0.02%
SVB Financial Group	SIVB	0.05%	n/a	n/a	11.00%	0.01%
Intuitive Surgical Inc	ISRG	0.26%	n/a	n/a	12.62%	0.03%
Affiliated Managers Group Inc	AMG	0.02%	1.17%	0.00%	4.37%	0.00%
Take-Two Interactive Software Inc	TTWO	0.04%	n/a	n/a	10.30%	0.00%
Republic Services Inc	RSG	0.10%	1.91%	0.00%	13.01%	0.01%
eBay Inc	EBAY	0.14%	1.51%	0.00%	10.67%	0.02%
Goldman Sachs Group Inc/The	GS	0.30%	1.63%	0.00%	7.27%	0.02%
SBA Communications Corp	SBAC	0.08%	n/a	n/a	27.95%	0.02%
Sempra Energy	SRE	0.14%	3.21%	0.00%	10.10%	0.01%
Moody's Corp	MCO	0.14%	1.16%	0.00%	12.80%	0.02%
Booking Holdings Inc	BKNG	0.32%	n/a	n/a	12.50%	0.04%
F5 Networks Inc	FFIV	0.04%	n/a	n/a	9.39%	0.00%
Akamai Technologies Inc	AKAM	0.05%	n/a	n/a	14.50%	0.01%
Devon Energy Corp	DVN	0.05%	1.22%	0.00%	1.15%	0.00%
Alphabet Inc	GOOGL	1.40%	n/a	n/a	15.22%	0.21%
Red Hat Inc	RHT	0.13%	n/a	n/a	18.40%	0.02%
Teleflex Inc	TFX	0.06%	0.47%	0.00%	12.45%	0.01%
Allegion PLC	ALLE	0.04%	1.20%	0.00%	11.24%	0.00%
Netflix Inc	NFLX	0.65%	n/a	n/a	32.07%	0.21%
Agilent Technologies Inc	A	0.10%	0.83%	0.00%	9.50%	0.01%
Anthem Inc	ANTM	0.32%	1.06%	0.00%	11.14%	0.04%
CME Group Inc	CME	0.27%	1.65%	0.00%	13.40%	0.04%
Juniper Networks Inc	JNPR	0.04%	2.81%	0.00%	8.63%	0.00%
BlackRock Inc	BLK	0.29%	2.98%	0.01%	9.69%	0.03%
DTE Energy Co	DTE	0.09%	3.06%	0.00%	5.53%	0.01%
Celanese Corp	CE	0.05%	2.11%	0.00%	7.05%	0.00%
Nasdaq Inc	NDAQ	0.06%	1.92%	0.00%	9.11%	0.01%
Philip Morris International Inc	PM	0.56%	5.25%	0.03%	9.06%	0.05%
salesforce.com Inc	CRM	0.52%	n/a	n/a	23.98%	0.12%
Huntington Ingalls Industries Inc	HII	0.04%	1.64%	0.00%	40.00%	0.01%
MetLife Inc	MET	0.18%	3.72%	0.01%	8.46%	0.02%
Under Armour Inc	UA	0.02%	n/a	n/a	37.34%	0.01%
Tapestry Inc	TPR	0.04%	3.86%	0.00%	11.75%	0.00%
Fluor Corp	FLR	0.02%	2.23%	0.00%	17.99%	0.00%
CSX Corp	CSX	0.25%	1.32%	0.00%	10.47%	0.03%
Edwards Lifesciences Corp	EW	0.15%	n/a	n/a	14.00%	0.02%
Ameriprise Financial Inc	AMP	0.07%	2.73%	0.00%	11.80%	0.01%
TechnipFMC PLC	FTI	0.04%	2.33%	0.00%	15.43%	0.01%
Zimmer Biomet Holdings Inc	ZBH	0.11%	0.77%	0.00%	4.74%	0.00%
CBRE Group Inc	CBRE	0.07%	n/a	n/a	8.55%	0.01%
Mastercard Inc	MA	0.94%	0.59%	0.01%	19.66%	0.19%
CarMax Inc	KMX	0.04%	n/a	n/a	12.92%	0.01%
Intercontinental Exchange Inc	ICE	0.18%	1.43%	0.00%	8.02%	0.01%
Fidelity National Information Services Inc	FIS	0.14%	1.29%	0.00%	12.00%	0.02%
Chipotle Mexican Grill Inc	CMG	0.07%	n/a	n/a	20.31%	0.01%
Wynn Resorts Ltd	WYNN	0.06%	2.37%	0.00%	31.10%	0.02%
Assurant Inc	AIZ	0.03%	2.33%	0.00%	n/a	n/a
NRG Energy Inc	NRG	0.05%	0.29%	0.00%	46.03%	0.02%
Monster Beverage Corp	MNST	0.14%	n/a	n/a	15.00%	0.02%
Regions Financial Corp	RF	0.07%	3.41%	0.00%	10.88%	0.01%
Mosaic Co/The	MOS	0.05%	0.32%	0.00%	8.40%	0.00%
Expedia Group Inc	EXPE	0.07%	1.04%	0.00%	17.20%	0.01%
Evergy Inc	EVERG	0.06%	3.40%	0.00%	7.43%	0.00%
Discovery Inc	DISCA	0.02%	n/a	n/a	12.30%	0.00%
CF Industries Holdings Inc	CF	0.04%	2.84%	0.00%	19.75%	0.01%
Viacom Inc	VIAB	0.04%	2.74%	0.00%	4.93%	0.00%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[13] Weight in Index	[14] Current Dividend Yield	[15] Cap-Weighted Dividend Yield	[16] Long-Term Growth Est.	[17] Cap-Weighted Long-Term Growth Est.
Alphabet Inc	GOOG	1.62%	n/a	n/a	15.22%	0.25%
TE Connectivity Ltd	TEL	0.12%	2.14%	0.00%	11.18%	0.01%
Cooper Cos Inc/The	COO	0.06%	0.02%	0.00%	4.70%	0.00%
Discover Financial Services	DFS	0.10%	2.23%	0.00%	8.80%	0.01%
TripAdvisor Inc	TRIP	0.03%	n/a	n/a	11.39%	0.00%
Visa Inc	V	1.07%	0.68%	0.01%	15.59%	0.17%
Mid-America Apartment Communities Inc	MAA	0.05%	3.71%	0.00%	7.00%	0.00%
Xylem Inc/NY	XYL	0.06%	1.27%	0.00%	14.00%	0.01%
Marathon Petroleum Corp	MPC	0.17%	3.42%	0.01%	16.14%	0.03%
Advanced Micro Devices Inc	AMD	0.10%	n/a	n/a	15.67%	0.02%
Tractor Supply Co	TSCO	0.05%	1.30%	0.00%	12.09%	0.01%
ResMed Inc	RMD	0.06%	1.44%	0.00%	12.50%	0.01%
Mettler-Toledo International Inc	MTD	0.07%	n/a	n/a	12.66%	0.01%
Copart Inc	CPRT	0.06%	n/a	n/a	20.00%	0.01%
Fortinet Inc	FTNT	0.06%	n/a	n/a	22.10%	0.01%
Albemarle Corp	ALB	0.04%	1.61%	0.00%	11.41%	0.00%
Essex Property Trust Inc	ESS	0.08%	2.79%	0.00%	6.06%	0.00%
Realty Income Corp	O	0.09%	3.91%	0.00%	4.39%	0.00%
Seagate Technology PLC	STX	0.05%	5.41%	0.00%	3.37%	0.00%
Westrock Co	WRK	0.04%	4.87%	0.00%	4.73%	0.00%
IHS Markit Ltd	INFO	0.09%	n/a	n/a	11.21%	0.01%
Wabtec Corp	WAB	0.03%	0.66%	0.00%	14.00%	0.00%
Western Digital Corp	WDC	0.06%	3.98%	0.00%	2.72%	0.00%
PepsiCo Inc	PEP	0.67%	3.21%	0.02%	5.48%	0.04%
Diamondback Energy Inc	FANG	0.07%	0.49%	0.00%	17.55%	0.01%
Nektar Therapeutics	NKTR	0.03%	n/a	n/a	n/a	n/a
Maxim Integrated Products Inc	MXIM	0.06%	3.38%	0.00%	8.93%	0.01%
Church & Dwight Co Inc	CHD	0.07%	1.38%	0.00%	8.21%	0.01%
Duke Realty Corp	DRE	0.04%	2.91%	0.00%	4.50%	0.00%
Federal Realty Investment Trust	FRT	0.04%	3.05%	0.00%	6.15%	0.00%
MGM Resorts International	MGM	0.06%	1.94%	0.00%	3.32%	0.00%
Twenty-First Century Fox Inc	FOX	0.17%	0.72%	0.00%	2.66%	0.00%
JB Hunt Transport Services Inc	JBHT	0.05%	0.97%	0.00%	18.78%	0.01%
Lam Research Corp	LRCX	0.11%	2.50%	0.00%	-0.42%	0.00%
Mohawk Industries Inc	MHK	0.04%	n/a	n/a	7.59%	0.00%
Pentair PLC	PNR	0.03%	1.69%	0.00%	10.29%	0.00%
Vertex Pharmaceuticals Inc	VRTX	0.20%	n/a	n/a	49.41%	0.10%
Facebook Inc	FB	1.59%	n/a	n/a	21.88%	0.35%
United Rentals Inc	URI	0.04%	n/a	n/a	17.76%	0.01%
Alexandria Real Estate Equities Inc	ARE	0.06%	2.86%	0.00%	4.80%	0.00%
ABIOMED Inc	ABMD	0.06%	n/a	n/a	29.00%	0.02%
Delta Air Lines Inc	DAL	0.14%	2.82%	0.00%	13.07%	0.02%
United Continental Holdings Inc	UAL	0.10%	n/a	n/a	14.17%	0.01%
News Corp	NWS	0.01%	1.50%	0.00%	-9.13%	0.00%
Centene Corp	CNC	0.10%	n/a	n/a	13.68%	0.01%
Macerich Co/The	MAC	0.03%	6.88%	0.00%	-0.12%	0.00%
Martin Marietta Materials Inc	MLM	0.05%	1.02%	0.00%	13.29%	0.01%
PayPal Holdings Inc	PYPL	0.48%	n/a	n/a	22.12%	0.11%
Coty Inc	COTY	0.03%	4.55%	0.00%	8.76%	0.00%
DISH Network Corp	DISH	0.03%	n/a	n/a	-20.68%	-0.01%
Alexion Pharmaceuticals Inc	ALXN	0.13%	n/a	n/a	15.94%	0.02%
Everest Re Group Ltd	RE	0.04%	2.48%	0.00%	10.00%	0.00%
WellCare Health Plans Inc	WCG	0.05%	n/a	n/a	17.08%	0.01%
News Corp	NWSA	0.02%	1.54%	0.00%	-9.13%	0.00%
Global Payments Inc	GPN	0.09%	0.03%	0.00%	14.67%	0.01%
Crown Castle International Corp	CCI	0.20%	3.79%	0.01%	15.50%	0.03%
Aptiv PLC	APTIV	0.09%	1.06%	0.00%	10.66%	0.01%
Advance Auto Parts Inc	AAP	0.05%	0.15%	0.00%	16.17%	0.01%
Capri Holdings Ltd	CPRI	0.03%	n/a	n/a	6.73%	0.00%
Align Technology Inc	ALGN	0.09%	n/a	n/a	23.19%	0.02%
Illumina Inc	ILMN	0.19%	n/a	n/a	25.16%	0.05%
Alliance Data Systems Corp	ADS	0.04%	1.46%	0.00%	2.54%	0.00%
LKQ Corp	LKQ	0.04%	n/a	n/a	13.85%	0.01%
Nielsen Holdings PLC	NLSN	0.04%	5.34%	0.00%	n/a	n/a
Garmin Ltd	GRMN	0.07%	2.72%	0.00%	7.28%	0.00%
Cimarex Energy Co	XEC	0.03%	1.11%	0.00%	66.37%	0.02%
Zoetis Inc	ZTS	0.19%	0.70%	0.00%	15.36%	0.03%
Digital Realty Trust Inc	DLR	0.10%	3.82%	0.00%	18.00%	0.02%
Equinix Inc	EQIX	0.15%	2.32%	0.00%	20.00%	0.03%
Discovery Inc	DISCK	0.04%	n/a	n/a	12.30%	0.00%

Notes:

- [10] Equals Sum ([15])
- [11] Equals Sum ([17])
- [12] Equals ([10] x (1 + (0.5 x [11]))) + [11]
- [13] Equals weight in S&P 500 based on market capitalization
- [14] Source: Bloomberg Professional
- [15] Equals [13] x [14]
- [16] Source: Bloomberg Professional
- [17] Equals [13] x [16]

BETA
AS OF FEBRUARY 28, 2019

		[1]	[2]
		Bloomberg	Value Line
ALLETE, Inc.	ALE	0.705	0.650
Alliant Energy Corporation	LNT	0.716	0.600
Atmos Energy Corporation	ATO	0.697	0.600
Black Hills Corporation	BKH	0.794	0.750
CMS Energy Corporation	CMS	0.663	0.550
Consolidated Edison, Inc.	ED	0.550	0.450
Eversource Energy	ES	0.660	0.600
FirstEnergy Corporation	FE	0.711	0.650
Hawaiian Electric Industries, Inc.	HE	0.686	0.600
New Jersey Resources Corporation	NJR	0.714	0.700
Northwest Natural Gas Company	NWN	0.696	0.650
NorthWestern Corporation	NWE	0.709	0.550
ONE Gas, Inc.	OGS	0.646	0.650
Portland General Electric Company	POR	0.672	0.600
PPL Corporation	PPL	0.637	0.700
Public Service Enterprise Group Inc.	PEG	0.708	0.650
Sempra Energy	SRE	0.714	0.750
South Jersey Industries, Inc.	SJI	0.748	0.850
Southwest Gas Corporation	SWX	0.759	0.700
Spire, Inc.	SR	0.639	0.650
Mean		0.691	0.645
Median		0.701	0.650

Notes:

[1] Source: Bloomberg Professional

[2] Source: Value Line

COMPARISON OF NYSEG/RG&E AND PROXY GROUP COMPANIES
RISK ASSESSMENT

Company	Jurisdiction/Service	Test Year	[2]			[3]		[4]		[5]	
			Authorized ROE	ROE Range		Fuel Cost Recovery Mechanism	Revenue Decoupling	Capital Cost Recovery Mechanism			
ALLETE, Inc.	Minnesota - Electric	Fully Forecast	9.25			Yes	No		No		
Alliant Energy Corporation	Iowa - Electric	Historic	9.98			Yes	No		No		
	Iowa - Gas	Historic	9.60			Yes	No		No		
Atmos Energy Corporation	Wisconsin - Electric	Fully Forecast	10.00			Yes	No		No		
	Wisconsin - Gas	Fully Forecast	10.00			Yes	No		No		
	Kansas - Gas	Historic	N/A			Yes	Partial		Yes		
	Kentucky - Gas	Fully Forecast	9.70			Yes	Partial		Yes		
	Louisiana - Gas	Fully Forecast	N/A			Yes	Partial		Yes		
	Mississippi - Gas	Fully Forecast	N/A			Yes	Partial		Yes		
Black Hills Corp	Tennessee - Gas	Fully Forecast	N/A			Yes	Partial		No		
	Texas - Gas	Historic	N/A			Yes	Partial		Yes		
	Arkansas - Gas	Partially Forecast	9.61			Yes	Full		Yes		
	Colorado - Electric	Historic	9.37			Yes	No		Yes		
	Colorado - Gas	Historic	10.00			Yes	No		No		
	Iowa - Gas	Historic	N/A			Yes	No		Yes		
	Kansas - Gas	Historic	N/A			Yes	Partial		Yes		
	Nebraska - Gas	Historic	9.60			Yes	No		Yes		
	South Dakota - Electric	Historic	N/A			Yes	Partial		No		
	Wyoming - Electric	Historic	9.90			Yes	Partial		No		
CMS Energy Corporation	Wyoming - Gas	Historic	N/A			Yes	Partial		No		
	Michigan - Electric	Fully Forecast	10.00			Yes	No		No		
Consolidated Edison, Inc.	Michigan - Gas	Fully Forecast	10.00			Yes	Partial		Yes		
	New Jersey - Electric	Partially Forecast	9.60			N/A	No		Yes		
Eversource Energy	New York - Electric	Fully Forecast	9.00			N/A	Full		No		
	New York - Gas	Fully Forecast	9.00			Yes	Full		Yes		
	O&R - Electric	Fully Forecast	9.00			N/A	Full		No		
	O&R - Gas	Fully Forecast	9.00			Yes	Full		Yes		
FirstEnergy Corporation	Connecticut - Electric	Fully Forecast	9.25			N/A	Full		Yes		
	Connecticut - Gas	Fully Forecast	N/A			Yes	No		Yes		
	Massachusetts - Electric	Historic	10.00			N/A	Full		Yes		
	Massachusetts - Gas	Historic	9.80			Yes	Full		Yes		
	New Hampshire - Electric	Historic	9.67			Yes	Partial		Yes		
	Maryland - Electric	Partially Forecast	9.65			N/A	No		No		
Hawaiian Electric Industries, Inc.	New Jersey - Electric	Partially Forecast	9.60			N/A	No		No		
	Ohio - Electric	Partially Forecast	10.50			N/A	Partial		Yes		
	Pennsylvania - Electric	Fully Forecast	N/A			N/A	No		Yes		
	West Virginia - Electric	Historic	N/A			Yes	No		Yes		
New Jersey Resources Corporation	Hawaii - Electric	Fully Forecast	9.50			Yes	Full		Yes		
Northwest Natural Gas Company	New Jersey - Gas	Partially Forecast	9.75			Yes	Full		Yes		
	Oregon - Gas	Fully Forecast	9.40			Yes	Partial		No		
NorthWestern Corporation	Washington - Gas	Historic	10.10			Yes	No		No		
	Montana - Electric	Historic	10.25			Yes	No		No		
	Montana - Gas	Historic	9.55			Yes	No		Yes		
	Nebraska - Gas	Historic	10.40			Yes	No		No		
	South Dakota - Electric	Historic	N/A			Yes	No		No		
ONE Gas, Inc.	Kansas - Gas	Historic	N/A			Yes	Partial		Yes		
	Oklahoma - Gas	Historic	N/A			Yes	Partial		No		
	Texas - Gas	Historic	N/A			Yes	Partial		Yes		
Portland General Electric Company	Oregon - Electric	Fully Forecast	9.50			Yes	Partial		No		
PPL Corporation	Kentucky - Electric	Fully Forecast	9.70			Yes	Partial		No		
	Kentucky - Gas	Fully Forecast	9.70			Yes	Partial		Yes		
	Pennsylvania - Electric	Fully Forecast	N/A			N/A	No		Yes		
	Virginia - Electric	Historic	N/A			Yes	No		No		
Public Service Enterprise Group	New Jersey - Electric	Partially Forecast	9.60			N/A	No		Yes		
	New Jersey - Gas	Partially Forecast	9.60			Yes	Partial		Yes		
Sempra Energy	California - Electric	Fully Forecast	10.20			Yes	Full		No		
	California - Gas	Fully Forecast	10.20			Yes	Full		No		
South Jersey Industries, Inc.	New Jersey - Gas	Partially Forecast	9.60			Yes	Full		Yes		
Southwest Gas Corporation	Arizona - Gas	Historic	9.50			Yes	Partial		Yes		
	California - Gas	Fully Forecast	10.10			Yes	Full		No		
	Nevada - Gas	Historic	9.25			Yes	Full		Yes		
Spire, Inc.	Alabama - Gas	Fully Forecast	N/A			Yes	Partial		No		
	Missouri - Gas	Partially Forecast	9.80			Yes	No		Yes		
Proxy Group Average			Mean	Low	High	Fuel Cost Recovery	Revenue Decoupling		Capital Cost Recovery		
	Fully Forecast	26	9.61%	9.00%	10.20%	Yes	52	Full	15	Yes	35
	Partially Forecast	10	9.73%	9.60%	10.50%	No	0	Partial	23	No	28
	Historic	27	9.80%	9.25%	10.40%	N/A	11	No	25		
NYSEG [6]	New York - electric	Fully Forecast	9.00			Yes	Full		Yes		
	New York - gas	Fully Forecast	9.00			Yes	Full		Yes		
RG&E [6]	New York - electric	Fully Forecast	9.00			Yes	Full		Yes		
	New York - gas	Fully Forecast	9.00			Yes	Full		Yes		

Notes

[1] Source: "Alternative Regulation for Evolving Utility Challenges," Prepared by Pacific Economics Group Research for Edison Electric Institute, Table 6, November 2015

[2] Source: Regulatory Research Associates, effective as of February 28, 2019.

[3] - [5] Source: "Adjustment Clauses: A State-by-state Overview," Regulatory Research Associates, September 28, 2018

[6] Data provided by NYSEG/RG&E

COMPARISON OF NYSEG/RG&E AND PROXY GROUP COMPANIES
S&P BUSINESS AND FINANCIAL PROFILE SCORES

		[1]	[2]	[3]	[4]
		S&P			
		Business Profile Rank	Numeric Rank	Financial Profile Rank	Numeric Rank
ALLETE, Inc.	ALLETE Inc.	Strong	2	Significant	4
Alliant Energy Corporation	Interstate Power and Light Company	Excellent	1	Significant	4
	Wisconsin Power and Light Company	Excellent	1	Intermediate	3
Atmos Energy Corporation	Atmos Energy Corporation	Excellent	1	Intermediate	3
Black Hills Corporation	Black Hills Corporation	Excellent	1	Significant	4
CMS Energy Corporation	Consumers Energy Company	Excellent	1	Significant	4
Consolidated Edison, Inc.	Consolidated Edison Company of New York, Inc.	Excellent	1	Significant	4
	Orange and Rockland Utilities, Inc.	Excellent	1	Significant	4
Eversource Energy	Connecticut Light and Power Company	Excellent	1	Intermediate	3
	NSTAR Electric Company	Excellent	1	Intermediate	3
	NSTAR Gas Company	Excellent	1	Significant	4
	Public Service Company of New Hampshire	Excellent	1	Intermediate	3
	Western Massachusetts Electric Company	Excellent	1	Intermediate	3
	Yankee Gas Services Company	Excellent	1	Intermediate	3
FirstEnergy Corporation	Cleveland Electric Illuminating Company	Strong	2	Significant	4
	Jersey Central Power & Light Company	Excellent	1	Modest	2
	Metropolitan Edison Company	Strong	2	Significant	4
	Monongahela Power Company	Excellent	1	Aggressive	5
	Ohio Edison Company	Excellent	1	Significant	4
	Pennsylvania Electric Company	Excellent	1	Significant	4
	Pennsylvania Power Company	Excellent	1	Intermediate	3
	Potomac Edison Company	Strong	2	Significant	4
	Toledo Edison Company	Excellent	1	Significant	4
	West Penn Power Company	Excellent	1	Intermediate	3
	Hawaiian Electric Industries, Inc.	Hawaiian Electric Company, Inc.	Strong	2	Significant
New Jersey Resources Corporation	New Jersey Natural Gas Company	Excellent	1	Significant	4
Northwest Natural Gas Company	Northwest Natural Holding Company	Excellent	1	Intermediate	3
NorthWestern Corporation	NorthWestern Corporation	Strong	2	Significant	4
ONE Gas, Inc.	ONE Gas Inc.	Excellent	1	Significant	4
Portland General Electric Company	Portland General Electric Company	Excellent	1	Significant	4
PPL Corporation	Kentucky Utilities Company	Excellent	1	Significant	4
	Louisville Gas and Electric Company	Excellent	1	Significant	4
	PPL Electric Utilities Corporation	Excellent	1	Significant	4
Public Service Enterprise Group Inc.	Public Service Electric and Gas Company	Excellent	1	Intermediate	3
Sempra Energy	San Diego Gas & Electric Company	Strong	2	Significant	4
	Southern California Gas Company	Excellent	1	Intermediate	3
South Jersey Industries, Inc.	South Jersey Gas Company	Excellent	1	Significant	4
	Elizabethtown Gas Company	Excellent	1	Significant	4
Southwest Gas Corporation	Southwest Gas Corporation	Excellent	1	Significant	4
Spire, Inc.	Spire Alabama Inc.	Excellent	1	Modest	2
	Spire Missouri Inc.	Excellent	1	Intermediate	3
Proxy Group Average		Excellent	1.17	Intermediate/Significant	3.61
NYSEG/RG&E		Excellent	1	Significant	4

Notes

[1] Source: S&P Ratings Direct Company Reports

[2] Excellent = 1, Strong = 2, Satisfactory = 3, Fair = 4, Weak = 5, Vulnerable = 6

[3] Source: S&P Ratings Direct Company Reports

[4] Minimal = 1, Modest = 2, Intermediate = 3, Significant = 4, Aggressive = 5, Highly Leveraged = 6

COMPARISON OF NYSEG/RG&E AND PROXY GROUP COMPANIES
RRA JURISDICTIONAL RANKINGS

		[1]	[2]
		Rank	Numeric Rank
ALLETE, Inc.	Minnesota	Average / 2	5
Alliant Energy Corporation	Iowa	Average / 1	4
	Wisconsin	Above Average / 2	2
Atmos Energy Corporation	Kansas	Below Average / 1	7
	Kentucky	Average / 1	4
	Louisiana	Average / 2	5
	Mississippi	Average / 1	4
	Tennessee	Above Average / 3	3
	Texas	Average / 3	6
Black Hills Corp	Arkansas	Average / 1	4
	Colorado	Average / 2	5
	Iowa	Average / 1	4
	Kansas	Below Average / 1	7
	Nebraska	Average / 1	4
	South Dakota	Average / 2	5
	Wyoming	Average / 3	6
CMS Energy Corporation	Michigan	Above Average / 3	3
Consolidated Edison, Inc.	New Jersey	Below Average / 1	7
	New York	Average / 1	4
Eversource Energy	Connecticut	Below Average / 1	7
	Massachusetts	Average / 2	5
	New Hampshire	Average / 3	6
FirstEnergy Corporation	Maryland	Below Average / 3	9
	New Jersey	Below Average / 1	7
	Ohio	Average / 2	5
	Pennsylvania	Above Average / 2	2
	West Virginia	Below Average / 2	8
Hawaiian Electric Industries, Inc.	Hawaii	Average / 2	5
New Jersey Resources Corporation	New Jersey	Below Average / 1	7
Northwest Natural Gas Company	Oregon	Average / 2	5
	Washington	Average / 3	6
NorthWestern Corporation	Montana	Below Average / 1	7
	Nebraska	Average / 1	4
	South Dakota	Average / 2	5
ONE Gas, Inc.	Kansas	Below Average / 1	7
	Oklahoma	Average / 3	6
	Texas	Average / 3	6
Portland General Electric Company	Oregon	Average / 2	5
PPL Corporation	Kentucky	Average / 1	4
	Pennsylvania	Above Average / 2	2
	Virginia	Above Average / 2	2
Public Service Enterprise Group	New Jersey	Below Average / 1	7
Sempra Energy	California	Average / 1	4
South Jersey Industries, Inc.	New Jersey	Below Average / 1	7
Southwest Gas Corporation	Arizona	Average / 3	6
	California	Average / 1	4
	Nevada	Average / 2	5
Spire, Inc.	Alabama	Above Average / 1	1
	Missouri	Average / 3	6
Proxy Group Average		Average / 2	5.08
NYSEG/RG&E	New York	Average / 1	4

Notes

[1] Source: State Regulatory Evaluations, Regulatory Research Associates, as of March 29, 2019

[2] AA/1= 1, AA/2= 2, AA/3= 3, A/1= 4, A/2= 5, A/3=6, BA/1= 7, BA/2= 8, BA/3= 9

COMPARISON OF NYSEG/RG&E AND PROXY GROUP COMPANIES
S&P JURISDICTIONAL RANKINGS

		[1]	[2]
		Rank	Numeric Rank
ALLETE, Inc.	Minnesota	Highly Credit Supportive	2
Alliant Energy Corporation	Iowa	Most Credit Supportive	1
	Wisconsin	Most Credit Supportive	1
Atmos Energy Corporation	Kansas	Highly Credit Supportive	2
	Kentucky	Most Credit Supportive	1
	Louisiana	Highly Credit Supportive	2
	Mississippi	Credit Supportive	5
	Tennessee	Highly Credit Supportive	2
	Texas	Very Credit Supportive	3
Black Hills Corp	Arkansas	Highly Credit Supportive	2
	Colorado	Most Credit Supportive	1
	Iowa	Most Credit Supportive	1
	Kansas	Highly Credit Supportive	2
	Nebraska	Very Credit Supportive	3
	South Dakota	Very Credit Supportive	3
	Wyoming	Highly Credit Supportive	2
CMS Energy Corporation	Michigan	Most Credit Supportive	1
Consolidated Edison, Inc.	New Jersey	More Credit Supportive	4
	New York	Very Credit Supportive	3
Eversource Energy	Connecticut	Very Credit Supportive	3
	Massachusetts	Highly Credit Supportive	2
	New Hampshire	Highly Credit Supportive	2
FirstEnergy Corporation	Maryland	More Credit Supportive	4
	New Jersey	More Credit Supportive	4
	Ohio	Very Credit Supportive	3
	Pennsylvania	Highly Credit Supportive	2
	West Virginia	Very Credit Supportive	3
Hawaiian Electric Industries, Inc.	Hawaii	Credit Supportive	5
New Jersey Resources Corporation	New Jersey	More Credit Supportive	4
Northwest Natural Gas Company	Oregon	Highly Credit Supportive	2
	Washington	More Credit Supportive	4
NorthWestern Corporation	Montana	More Credit Supportive	4
	Nebraska	Very Credit Supportive	3
	South Dakota	Very Credit Supportive	3
ONE Gas, Inc.	Kansas	Highly Credit Supportive	2
	Oklahoma	More Credit Supportive	4
	Texas	Very Credit Supportive	3
Portland General Electric Company	Oregon	Highly Credit Supportive	2
PPL Corporation	Kentucky	Most Credit Supportive	1
	Pennsylvania	Highly Credit Supportive	2
	Virginia	Highly Credit Supportive	2
Public Service Enterprise Group	New Jersey	More Credit Supportive	4
Sempra Energy	California	More Credit Supportive	4
South Jersey Industries, Inc.	New Jersey	More Credit Supportive	4
Southwest Gas Corporation	Arizona	More Credit Supportive	4
	California	More Credit Supportive	4
	Nevada	Very Credit Supportive	3
Spire, Inc.	Alabama	Most Credit Supportive	1
	Missouri	Very Credit Supportive	3
Proxy Group Average		Very Credit Supportive	2.69
NYSEG/RG&E	New York	Very Credit Supportive	3

Notes

[1] Source: US and Canadian Regulatory Jurisdictions Continue to Bolster Utilities' Credit Quality, Standard and Poor's Ratings Services, October 30, 2018

2019 - 2023 CAPITAL EXPENDITURES AS A PERCENT OF 2017 NET PLANT
(\$ Millions)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]
		2017	2019	2020	2021	2022	2023	2019-23 Cap. Ex. / 2017 Net Plant
ALLETE, Inc.	ALE							
Capital Spending per Share			\$6.90	\$6.83	\$6.75	\$6.75	\$6.75	
Common Shares Outstanding			52.00	52.75	53.50	53.50	53.50	
Capital Expenditures			\$358.8	\$360.0	\$361.1	\$361.1	\$361.1	47.15%
Net Plant		\$3,822.4						
Alliant Energy Corporation	LNT							
Capital Spending per Share			\$6.70	\$6.03	\$5.35	\$5.35	\$5.35	
Common Shares Outstanding			240.00	242.50	245.00	245.00	245.00	
Capital Expenditures			\$1,608.0	\$1,461.1	\$1,310.8	\$1,310.8	\$1,310.8	64.84%
Net Plant		\$10,797.9						
Atmos Energy Corporation	ATO							
Capital Spending per Share			\$14.15	\$14.40	\$14.10	\$13.80	\$13.80	
Common Shares Outstanding			120.00	125.00	135.00	145.00	145.00	
Capital Expenditures			\$1,698.0	\$1,800.0	\$1,903.5	\$2,001.0	\$2,001.0	101.56%
Net Plant		\$9,259.2						
Black Hills Corporation	BKH							
Capital Spending per Share			\$10.85	\$9.05	\$7.25	\$7.25	\$7.25	
Common Shares Outstanding			60.50	60.75	61.00	61.00	61.00	
Capital Expenditures			\$656.4	\$549.8	\$442.3	\$442.3	\$442.3	55.77%
Net Plant		\$4,541.4						
CMS Energy Corporation	CMS							
Capital Spending per Share			\$8.40	\$7.45	\$6.50	\$6.50	\$6.50	
Common Shares Outstanding			286.50	290.25	294.00	294.00	294.00	
Capital Expenditures			\$2,406.6	\$2,162.4	\$1,911.0	\$1,911.0	\$1,911.0	61.46%
Net Plant		\$16,761.0						
Consolidated Edison, Inc.	ED							
Capital Spending per Share			\$10.80	\$10.90	\$10.83	\$10.75	\$10.75	
Common Shares Outstanding			328.00	329.00	330.50	332.00	332.00	
Capital Expenditures			\$3,542.4	\$3,586.1	\$3,577.7	\$3,569.0	\$3,569.0	47.46%
Net Plant		\$37,600.0						
Eversource Energy	ES							
Capital Spending per Share			\$10.70	\$9.40	\$8.20	\$7.00	\$7.00	
Common Shares Outstanding			316.89	316.89	316.89	316.89	316.89	
Capital Expenditures			\$3,390.7	\$2,978.8	\$2,598.5	\$2,218.2	\$2,218.2	56.76%
Net Plant		\$23,617.0						
FirstEnergy Corporation	FE							
Capital Spending per Share			\$5.45	\$5.30	\$5.28	\$5.25	\$5.25	
Common Shares Outstanding			540.00	543.00	546.50	550.00	550.00	
Capital Expenditures			\$2,943.0	\$2,877.9	\$2,882.8	\$2,887.5	\$2,887.5	50.14%
Net Plant		\$28,879.0						
Hawaiian Electric Industries, Inc.	HE							
Capital Spending per Share			\$4.10	\$4.30	\$4.50	\$4.50	\$4.50	
Common Shares Outstanding			110.00	111.50	113.00	113.00	113.00	
Capital Expenditures			\$451.0	\$479.5	\$508.5	\$508.5	\$508.5	48.87%
Net Plant		\$5,025.9						
New Jersey Resources Corporation	NJR							
Capital Spending per Share			\$2.20	\$2.25	\$2.28	\$2.30	\$2.30	
Common Shares Outstanding			88.00	88.25	88.63	89.00	89.00	
Capital Expenditures			\$193.6	\$198.6	\$201.6	\$204.7	\$204.7	38.44%
Net Plant		\$2,609.7						
Northwest Natural Gas Company	NWN							
Capital Spending per Share			\$6.65	\$6.65	\$6.45	\$6.25	\$6.25	
Common Shares Outstanding			30.00	30.50	31.25	32.00	32.00	
Capital Expenditures			\$199.5	\$202.8	\$201.6	\$200.0	\$200.0	44.52%
Net Plant		\$2,255.0						
NorthWestern Corporation	NWE							
Capital Spending per Share			\$6.70	\$6.48	\$6.25	\$6.25	\$6.25	
Common Shares Outstanding			50.50	50.75	51.00	51.00	51.00	
Capital Expenditures			\$338.4	\$328.6	\$318.8	\$318.8	\$318.8	37.24%
Net Plant		\$4,358.3						

2019 - 2023 CAPITAL EXPENDITURES AS A PERCENT OF 2017 NET PLANT
(\$ Millions)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]
		2017	2019	2020	2021	2022	2023	2019-23 Cap. Ex. / 2017 Net Plant
ONE Gas, Inc.	OGS							
Capital Spending per Share			\$8.50	\$8.70	\$8.80	\$8.90	\$8.90	
Common Shares Outstanding			53.00	53.50	54.25	55.00	55.00	
Capital Expenditures			\$450.5	\$465.5	\$477.4	\$489.5	\$489.5	59.20%
Net Plant		\$4,007.6						
Portland General Electric Company	POR							
Capital Spending per Share			\$5.15	\$5.08	\$5.00	\$5.00	\$5.00	
Common Shares Outstanding			89.40	89.70	90.00	90.00	90.00	
Capital Expenditures			\$460.4	\$455.2	\$450.0	\$450.0	\$450.0	33.61%
Net Plant		\$6,741.0						
PPL Corporation	PPL							
Capital Spending per Share			\$4.30	\$4.05	\$3.65	\$3.25	\$3.25	
Common Shares Outstanding			772.00	775.00	778.75	782.50	782.50	
Capital Expenditures			\$3,319.6	\$3,138.8	\$2,842.4	\$2,543.1	\$2,543.1	43.48%
Net Plant		\$33,092.0						
Public Service Enterprise Group Inc.	PEG							
Capital Spending per Share			\$5.55	\$5.55	\$5.53	\$5.50	\$5.50	
Common Shares Outstanding			505.00	505.00	505.00	505.00	505.00	
Capital Expenditures			\$2,802.8	\$2,802.8	\$2,790.1	\$2,777.5	\$2,777.5	43.87%
Net Plant		\$31,797.0						
Sempra Energy	SRE							
Capital Spending per Share			\$12.60	\$10.80	\$9.00	\$9.00	\$9.00	
Common Shares Outstanding			286.00	296.50	307.00	307.00	307.00	
Capital Expenditures			\$3,603.6	\$3,202.2	\$2,763.0	\$2,763.0	\$2,763.0	41.35%
Net Plant		\$36,503.0						
South Jersey Industries, Inc.	SJI							
Capital Spending per Share			\$3.10	\$3.35	\$4.13	\$4.90	\$4.90	
Common Shares Outstanding			90.00	92.00	95.00	98.00	98.00	
Capital Expenditures			\$279.0	\$308.2	\$391.9	\$480.2	\$480.2	71.83%
Net Plant		\$2,700.2						
Southwest Gas Corporation	SWX							
Capital Spending per Share			\$14.35	\$15.00	\$16.13	\$17.25	\$17.25	
Common Shares Outstanding			54.00	55.00	56.50	58.00	58.00	
Capital Expenditures			\$774.9	\$825.0	\$911.1	\$1,000.5	\$1,000.5	99.74%
Net Plant		\$4,523.7						
Spire, Inc.	SR							
Capital Spending per Share			\$10.95	\$11.70	\$12.23	\$12.75	\$12.75	
Common Shares Outstanding			52.00	53.00	54.00	55.00	55.00	
Capital Expenditures			\$569.4	\$620.1	\$660.2	\$701.3	\$701.3	88.73%
Net Plant		\$3,665.2						
NYSEG/RG&E	NYSEG/ RG&E							
Capital Spending per Share								
Common Shares Outstanding		2017	2019	2020	2021	2022	2023	
Capital Expenditures [8]			\$913	\$1,254	\$1,360	\$1,301	\$1,253	104.24%
Net Plant [9]		\$5,834.6						

Notes:

[1] Source: Value Line

[2] Source: Value Line

[3] Source: Value Line

[4] Source: Value Line

[5] Source: Value Line

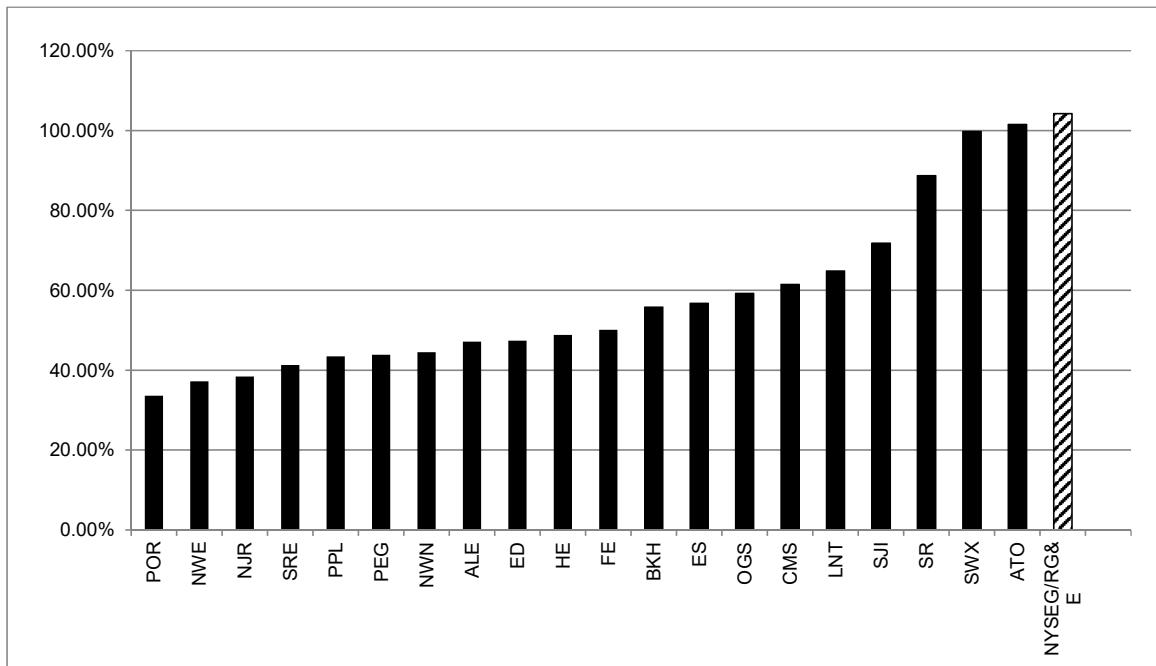
[6] Source: Value Line

[7] Equals Sum ([2], [3], [4], [5], [6]) / [1]

[8] Source: Direct Testimony of Electric, Generation and Common Capital Expenditures Panel and Direct Testimony of Gas and Common Capital Expenditures Panel

[9] Source: SNL Financial

CAPITAL EXPENDITURES AS A PERCENT OF NET PLANT
(\$ Millions)



			2019-23 Cap. Ex. / 2017 Net Plant
1	Portland General Electric Company	POR	33.61%
2	NorthWestern Corporation	NWE	37.24%
3	New Jersey Resources Corporation	NJR	38.44%
4	Sempra Energy	SRE	41.35%
5	PPL Corporation	PPL	43.48%
6	Public Service Enterprise Group Inc.	PEG	43.87%
7	Northwest Natural Gas Company	NWN	44.52%
8	ALLETE, Inc.	ALE	47.15%
9	Consolidated Edison, Inc.	ED	47.46%
10	Hawaiian Electric Industries, Inc.	HE	48.87%
11	FirstEnergy Corporation	FE	50.14%
12	Black Hills Corporation	BKH	55.77%
13	Eversource Energy	ES	56.76%
14	ONE Gas, Inc.	OGS	59.20%
15	CMS Energy Corporation	CMS	61.46%
16	Alliant Energy Corporation	LNT	64.84%
17	South Jersey Industries, Inc.	SJI	71.83%
18	Spire, Inc.	SR	88.73%
19	Southwest Gas Corporation	SWX	99.74%
20	Atmos Energy Corporation	ATO	101.56%
21	NYSEG/RG&E	NYSEG/RG&E	104.24%
22	Median of Proxy Group (excluding NYSEG and RG&E)		49.50%

CAPITAL STRUCTURE ANALYSIS
COMMON EQUITY RATIO

Proxy Group Company	Ticker	2017	2016	2015	2014	Average
ALLETE, Inc.	ALE	62.51%	59.02%	58.04%	56.98%	59.14%
Alliant Energy Corporation	LNT	48.79%	49.63%	49.95%	48.75%	49.28%
Atmos Energy Corporation	ATO	59.41%	60.94%	56.73%	51.23%	57.08%
Black Hills Corporation	BKH	75.53%	73.95%	64.25%	75.17%	72.23%
CMS Energy Corporation	CMS	51.99%	50.96%	50.32%	49.88%	50.79%
Consolidated Edison, Inc.	ED	65.49%	65.55%	64.87%	66.38%	65.57%
Eversource Energy	ES	56.21%	56.09%	55.04%	56.71%	56.01%
FirstEnergy Corporation	FE	55.08%	53.51%	51.90%	50.77%	52.81%
Hawaiian Electric Industries, Inc.	HE	60.15%	59.45%	59.58%	60.40%	59.90%
New Jersey Resources Corporation	NJR	61.97%	56.47%	57.73%	62.29%	59.61%
Northwest Natural Gas Company	NWN	51.77%	55.18%	57.33%	55.97%	55.06%
NorthWestern Corporation	NWE	49.81%	48.04%	47.22%	46.97%	48.01%
ONE Gas, Inc.	OGS	62.01%	60.90%	71.90%	71.01%	66.45%
Portland General Electric Company	POR	49.66%	49.65%	50.43%	43.17%	48.23%
PPL Corporation	PPL	54.39%	57.49%	56.12%	57.45%	56.36%
Public Service Enterprise Group Inc.	PEG	53.15%	52.44%	52.30%	51.61%	52.38%
Sempra Energy	SRE	56.97%	56.26%	56.04%	58.04%	56.83%
South Jersey Industries, Inc.	SJI	53.31%	64.17%	53.98%	56.47%	56.98%
Southwest Gas Corporation	SWX	50.20%	53.43%	52.38%	49.87%	51.47%
Spire, Inc.	SR	54.78%	59.25%	61.74%	59.85%	58.91%
MEAN		56.66%	57.12%	56.39%	56.45%	56.65%
LOW		48.79%	48.04%	47.22%	43.17%	48.01%
HIGH		75.53%	73.95%	71.90%	75.17%	72.23%

COMMON EQUITY RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2017	2016	2015	2014	Average
ALLETE (Minnesota Power)	ALE	60.04%	56.92%	55.85%	55.24%	57.01%
Superior Water, Light and Power Company	ALE	64.99%	61.12%	60.23%	58.71%	61.26%
Atmos Energy Corporation	ATO	59.41%	60.94%	56.73%	51.23%	57.08%
Black Hills Colorado Electric, Inc.	BKH	55.41%	51.94%	50.60%	99.08%	64.26%
Black Hills Energy Arkansas, Inc.	BKH	98.21%	97.50%	96.53%	97.17%	97.35%
Black Hills Gas Distribution LLC	BKH	93.10%	89.11%	33.18%	98.91%	78.58%
Black Hills Northwest Wyoming Gas Utility Company, LLC	BKH	99.30%	99.28%	98.85%	52.65%	87.52%
Black Hills Power, Inc.	BKH	53.39%	52.79%	53.26%	52.15%	52.90%
Cheyenne Light, Fuel and Power Company	BKH	53.76%	53.09%	53.07%	51.07%	52.75%
Consumers Energy Company	CMS	51.99%	50.96%	50.32%	49.88%	50.79%
Consolidated Edison Company of New York, Inc.	ED	47.60%	48.63%	49.05%	49.22%	48.63%
Orange and Rockland Utilities, Inc.	ED	49.91%	49.12%	47.50%	51.49%	49.50%
Rockland Electric Company	ED	98.95%	98.92%	98.04%	98.44%	98.59%
Connecticut Light and Power Company	ES	52.69%	54.31%	51.85%	51.85%	52.68%
NSTAR Electric Company	ES	53.34%	55.52%	55.52%	57.19%	55.40%
NSTAR Gas Company	ES	53.84%	52.12%	53.50%	62.15%	55.40%
Public Service Company of New Hampshire	ES	57.11%	56.15%	53.33%	53.19%	54.95%
Western Massachusetts Electric Company	ES	53.33%	54.02%	53.36%	50.22%	52.73%
Yankee Gas Services Company	ES	66.91%	64.43%	62.70%	65.63%	64.92%
Cleveland Electric Illuminating Company	FE	54.95%	50.56%	44.77%	44.71%	48.75%
Jersey Central Power & Light Company	FE	64.69%	58.73%	52.04%	54.47%	57.48%
Metropolitan Edison Company	FE	51.59%	49.52%	47.69%	47.51%	49.08%
Monongahela Power Company	FE	48.88%	48.85%	48.60%	46.81%	48.28%
Ohio Edison Company	FE	64.15%	62.84%	62.78%	62.34%	63.03%
Pennsylvania Electric Company	FE	51.59%	51.35%	47.20%	47.15%	49.32%
Pennsylvania Power Company	FE	52.92%	51.22%	56.96%	51.40%	53.12%
Potomac Edison Company	FE	50.51%	48.99%	50.39%	49.86%	49.94%
Toledo Edison Company	FE	59.51%	61.44%	59.90%	50.27%	57.78%
West Penn Power Company	FE	52.01%	51.61%	48.63%	53.15%	51.35%
Hawaii Electric Light Company, Inc.	HE	57.27%	56.42%	56.50%	58.42%	57.15%
Hawaiian Electric Company, Inc.	HE	65.67%	65.32%	65.35%	65.96%	65.58%
Maui Electric Company, Limited	HE	57.50%	56.60%	56.90%	56.82%	56.96%
Interstate Power and Light Company	LNT	48.36%	48.06%	48.38%	47.23%	48.01%
Wisconsin Power and Light Company	LNT	49.22%	51.20%	51.53%	50.27%	50.55%
New Jersey Natural Gas Company	NJR	61.97%	56.47%	57.73%	62.29%	59.61%
NorthWestern Corporation	NWE	49.81%	48.04%	47.22%	46.97%	48.01%
Northwest Natural Holding Company	NWN	51.77%	55.18%	57.33%	55.97%	55.06%
Kansas Gas Service Company, Inc.	OGS	62.16%	60.85%	59.51%	58.54%	60.27%
Oklahoma Natural Gas Company	OGS	N/A	60.88%	59.39%	58.42%	59.56%
Texas Gas Service Company, Inc.	OGS	61.86%	60.96%	96.80%	96.08%	78.92%
Public Service Electric and Gas Company	PEG	53.15%	52.44%	52.30%	51.61%	52.38%
Portland General Electric Company	POR	49.66%	49.65%	50.43%	43.17%	48.23%
Kentucky Utilities Company	PPL	53.68%	58.37%	58.12%	60.22%	57.60%
Louisville Gas and Electric Company	PPL	55.03%	59.94%	58.13%	61.21%	58.58%
PPL Electric Utilities Corporation	PPL	54.45%	54.17%	52.09%	50.91%	52.91%
South Jersey Gas Company	SJI	53.31%	64.17%	53.98%	56.47%	56.98%
Missouri Gas Energy	SR	56.77%	56.52%	55.83%	55.06%	56.04%
Spire Alabama Inc.	SR	N/A	76.38%	82.22%	75.96%	78.19%
Spire Gulf Inc.	SR	40.36%	55.37%	55.09%	55.27%	51.52%
Spire Mississippi Inc.	SR	65.22%	51.48%	59.73%	57.90%	58.58%
Spire Missouri Inc.	SR	56.77%	56.52%	55.83%	55.06%	56.04%
Energy Future Holdings Corp	SRE	58.84%	58.00%	56.80%	60.08%	58.43%
Oncor Electric Delivery Company LLC	SRE	58.84%	58.00%	56.80%	60.08%	58.43%
San Diego Gas & Electric Company	SRE	54.67%	56.10%	55.99%	54.03%	55.20%
Southern California Gas Company	SRE	55.52%	52.96%	54.58%	57.96%	55.26%
Southwest Gas Corporation	SWX	50.20%	53.43%	52.38%	49.87%	51.47%

Notes:

[1] Natural Gas and Electric Operating Subsidiaries with data listed as N/A from SNL Financial have been excluded from the analysis.

[2] SNL Financial

CAPITAL STRUCTURE ANALYSIS
LONG-TERM DEBT RATIO

Proxy Group Company	Ticker	2017	2016	2015	2014	Average
ALLETE, Inc.	ALE	37.49%	40.98%	41.95%	43.02%	40.86%
Alliant Energy Corporation	LNT	49.26%	48.19%	47.53%	48.53%	48.38%
Atmos Energy Corporation	ATO	40.22%	38.40%	42.31%	47.68%	42.15%
Black Hills Corporation	BKH	23.56%	24.89%	34.96%	23.95%	26.84%
CMS Energy Corporation	CMS	47.51%	48.49%	49.07%	49.46%	48.63%
Consolidated Edison, Inc.	ED	33.51%	33.39%	33.75%	32.35%	33.25%
Eversource Energy	ES	43.12%	43.22%	44.24%	42.57%	43.29%
FirstEnergy Corporation	FE	43.75%	45.24%	46.84%	47.95%	45.94%
Hawaiian Electric Industries, Inc.	HE	38.24%	38.90%	38.67%	37.71%	38.38%
New Jersey Resources Corporation	NJR	37.41%	42.97%	41.67%	37.00%	39.76%
Northwest Natural Gas Company	NWN	47.88%	44.46%	42.26%	43.62%	44.55%
NorthWestern Corporation	NWE	50.02%	51.78%	52.59%	52.82%	51.80%
ONE Gas, Inc.	OGS	36.14%	37.20%	25.68%	26.44%	31.36%
Portland General Electric Company	POR	50.06%	50.01%	49.23%	56.50%	51.45%
PPL Corporation	PPL	45.10%	42.03%	43.42%	42.05%	43.15%
Public Service Enterprise Group Inc.	PEG	46.36%	46.99%	47.04%	47.66%	47.01%
Sempra Energy	SRE	42.43%	43.14%	43.33%	41.22%	42.53%
South Jersey Industries, Inc.	SJI	44.28%	32.33%	44.53%	42.07%	40.80%
Southwest Gas Corporation	SWX	47.62%	44.26%	45.24%	47.74%	46.21%
Spire, Inc.	SR	43.17%	39.14%	36.63%	38.56%	39.37%
MEAN		42.36%	41.80%	42.55%	42.44%	42.29%
LOW		23.56%	24.89%	25.68%	23.95%	26.84%
HIGH		50.06%	51.78%	52.59%	56.50%	51.80%

LONG-TERM DEBT RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2017	2016	2015	2014	Average
ALLETE (Minnesota Power)	ALE	39.96%	43.08%	44.13%	44.76%	42.98%
Superior Water, Light and Power Company	ALE	35.01%	38.88%	39.77%	41.28%	38.73%
Atmos Energy Corporation	ATO	40.22%	38.40%	42.31%	47.68%	42.15%
Black Hills Colorado Electric, Inc.	BKH	44.09%	47.57%	48.91%	0.00%	35.14%
Black Hills Energy Arkansas, Inc.	BKH	0.00%	0.00%	2.08%	1.12%	0.80%
Black Hills Gas Distribution LLC	BKH	5.07%	8.29%	65.72%	0.08%	19.79%
Black Hills Northwest Wyoming Gas Utility Company, LLC	BKH	0.00%	0.00%	0.00%	46.31%	11.58%
Black Hills Power, Inc.	BKH	46.42%	47.04%	46.57%	47.69%	46.93%
Cheyenne Light, Fuel and Power Company	BKH	45.78%	46.42%	46.47%	48.49%	46.79%
Consumers Energy Company	CMS	47.51%	48.49%	49.07%	49.46%	48.63%
Consolidated Edison Company of New York, Inc.	ED	51.12%	49.99%	49.49%	49.33%	49.98%
Orange and Rockland Utilities, Inc.	ED	49.41%	50.18%	51.77%	47.71%	49.77%
Rockland Electric Company	ED	0.00%	0.00%	0.00%	0.00%	0.00%
Connecticut Light and Power Company	ES	45.22%	43.51%	45.89%	45.77%	45.10%
NSTAR Electric Company	ES	45.72%	43.45%	43.44%	41.69%	43.58%
NSTAR Gas Company	ES	45.97%	47.69%	46.31%	37.64%	44.40%
Public Service Company of New Hampshire	ES	42.56%	43.57%	46.40%	46.61%	44.79%
Western Massachusetts Electric Company	ES	46.48%	45.82%	46.45%	49.61%	47.09%
Yankee Gas Services Company	ES	32.76%	35.26%	36.97%	34.07%	34.76%
Cleveland Electric Illuminating Company	FE	44.47%	48.80%	54.51%	54.66%	50.61%
Jersey Central Power & Light Company	FE	34.38%	40.45%	47.42%	44.99%	41.81%
Metropolitan Edison Company	FE	47.00%	48.93%	50.79%	50.89%	49.40%
Monongahela Power Company	FE	50.56%	50.55%	50.81%	52.69%	51.15%
Ohio Edison Company	FE	34.68%	35.87%	35.96%	36.53%	35.76%
Pennsylvania Electric Company	FE	47.50%	47.68%	51.75%	51.77%	49.68%
Pennsylvania Power Company	FE	45.42%	47.16%	40.97%	46.41%	44.99%
Potomac Edison Company	FE	47.39%	48.84%	47.29%	47.81%	47.83%
Toledo Edison Company	FE	39.62%	37.68%	39.25%	48.80%	41.34%
West Penn Power Company	FE	46.45%	46.47%	49.65%	44.91%	46.87%
Hawaii Electric Light Company, Inc.	HE	40.76%	41.65%	41.50%	39.39%	40.82%
Hawaiian Electric Company, Inc.	HE	33.12%	33.41%	33.30%	32.57%	33.10%
Maui Electric Company, Limited	HE	40.85%	41.65%	41.21%	41.18%	41.22%
Interstate Power and Light Company	LNT	47.77%	47.61%	46.65%	47.42%	47.36%
Wisconsin Power and Light Company	LNT	50.76%	48.77%	48.40%	49.64%	49.39%
New Jersey Natural Gas Company	NJR	37.41%	42.97%	41.67%	37.00%	39.76%
NorthWestern Corporation	NWE	50.02%	51.78%	52.59%	52.82%	51.80%
Northwest Natural Holding Company	NWN	47.88%	44.46%	42.26%	43.62%	44.55%
Kansas Gas Service Company, Inc.	OGS	35.96%	37.28%	38.43%	39.62%	37.82%
Oklahoma Natural Gas Company	OGS	N/A	37.10%	38.61%	39.69%	38.47%
Texas Gas Service Company, Inc.	OGS	36.32%	37.21%	0.00%	0.00%	18.38%
Public Service Electric and Gas Company	PEG	46.36%	46.99%	47.04%	47.66%	47.01%
Portland General Electric Company	POR	50.06%	50.01%	49.23%	56.50%	51.45%
Kentucky Utilities Company	PPL	45.73%	41.12%	41.41%	39.27%	41.88%
Louisville Gas and Electric Company	PPL	44.26%	39.41%	41.24%	38.10%	40.75%
PPL Electric Utilities Corporation	PPL	45.33%	45.56%	47.61%	48.78%	46.82%
South Jersey Gas Company	SJI	44.28%	32.33%	44.53%	42.07%	40.80%
Missouri Gas Energy	SR	42.59%	42.76%	43.47%	44.14%	43.24%
Spire Alabama Inc.	SR	N/A	22.02%	15.98%	22.33%	20.11%
Spire Gulf Inc.	SR	56.83%	42.97%	43.61%	43.85%	46.82%
Spire Mississippi Inc.	SR	30.67%	45.17%	36.62%	38.36%	37.70%
Spire Missouri Inc.	SR	42.59%	42.76%	43.47%	44.14%	43.24%
Energy Future Holdings Corp	SRE	41.13%	41.92%	43.18%	39.84%	41.52%
Oncor Electric Delivery Company LLC	SRE	41.13%	41.92%	43.18%	39.84%	41.52%
San Diego Gas & Electric Company	SRE	44.56%	43.15%	43.24%	45.19%	44.03%
Southern California Gas Company	SRE	42.90%	45.56%	43.72%	40.01%	43.05%
Southwest Gas Corporation	SWX	47.62%	44.26%	45.24%	47.74%	46.21%

Notes:

[1] Natural Gas and Electric Operating Subsidiaries with data listed as N/A from SNL Financial have been excluded from the analysis.

[2] SNL Financial

CAPITAL STRUCTURE ANALYSIS
PREFERRED EQUITY RATIO

Proxy Group Company	Ticker	2017	2016	2015	2014	Average
ALLETE, Inc.	ALE	0.00%	0.00%	0.00%	0.00%	0.00%
Alliant Energy Corporation	LNT	1.92%	2.14%	2.42%	2.60%	2.27%
Atmos Energy Corporation	ATO	0.00%	0.00%	0.00%	0.00%	0.00%
Black Hills Corporation	BKH	0.00%	0.00%	0.00%	0.00%	0.00%
CMS Energy Corporation	CMS	0.30%	0.32%	0.34%	0.36%	0.33%
Consolidated Edison, Inc.	ED	0.00%	0.00%	0.00%	0.00%	0.00%
Eversource Energy	ES	0.42%	0.45%	0.47%	0.51%	0.46%
FirstEnergy Corporation	FE	0.00%	0.00%	0.00%	0.00%	0.00%
Hawaiian Electric Industries, Inc.	HE	1.09%	1.09%	1.09%	1.14%	1.10%
New Jersey Resources Corporation	NJR	0.00%	0.00%	0.00%	0.00%	0.00%
Northwest Natural Gas Company	NWN	0.00%	0.00%	0.00%	0.00%	0.00%
NorthWestern Corporation	NWE	0.00%	0.00%	0.00%	0.00%	0.00%
ONE Gas, Inc.	OGS	0.00%	0.00%	0.00%	0.00%	0.00%
Portland General Electric Company	POR	0.00%	0.00%	0.00%	0.00%	0.00%
PPL Corporation	PPL	0.00%	0.00%	0.00%	0.00%	0.00%
Public Service Enterprise Group Inc.	PEG	0.00%	0.00%	0.00%	0.00%	0.00%
Sempra Energy	SRE	0.08%	0.08%	0.09%	0.11%	0.09%
South Jersey Industries, Inc.	SJI	0.00%	0.00%	0.00%	0.00%	0.00%
Southwest Gas Corporation	SWX	0.00%	0.00%	0.00%	0.00%	0.00%
Spire, Inc.	SR	0.00%	0.00%	0.00%	0.00%	0.00%
MEAN		0.19%	0.20%	0.22%	0.24%	0.21%
LOW		0.00%	0.00%	0.00%	0.00%	0.00%
HIGH		1.92%	2.14%	2.42%	2.60%	2.27%

PREFERRED EQUITY RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2017	2016	2015	2014	Average
ALLETE (Minnesota Power)	ALE	0.00%	0.00%	0.00%	0.00%	0.00%
Superior Water, Light and Power Company	ALE	0.00%	0.00%	0.00%	0.00%	0.00%
Atmos Energy Corporation	ATO	0.00%	0.00%	0.00%	0.00%	0.00%
Black Hills Colorado Electric, Inc.	BKH	0.00%	0.00%	0.00%	0.00%	0.00%
Black Hills Energy Arkansas, Inc.	BKH	0.00%	0.00%	0.00%	0.00%	0.00%
Black Hills Gas Distribution LLC	BKH	0.00%	0.00%	0.00%	0.00%	0.00%
Black Hills Northwest Wyoming Gas Utility Company, LLC	BKH	0.00%	0.00%	0.00%	0.00%	0.00%
Black Hills Power, Inc.	BKH	0.00%	0.00%	0.00%	0.00%	0.00%
Cheyenne Light, Fuel and Power Company	BKH	0.00%	0.00%	0.00%	0.00%	0.00%
Consumers Energy Company	CMS	0.30%	0.32%	0.34%	0.36%	0.33%
Consolidated Edison Company of New York, Inc.	ED	0.00%	0.00%	0.00%	0.00%	0.00%
Orange and Rockland Utilities, Inc.	ED	0.00%	0.00%	0.00%	0.00%	0.00%
Rockland Electric Company	ED	0.00%	0.00%	0.00%	0.00%	0.00%
Connecticut Light and Power Company	ES	1.71%	1.82%	1.92%	2.05%	1.87%
NSTAR Electric Company	ES	0.82%	0.89%	0.91%	1.00%	0.91%
NSTAR Gas Company	ES	0.00%	0.00%	0.00%	0.00%	0.00%
Public Service Company of New Hampshire	ES	0.00%	0.00%	0.00%	0.00%	0.00%
Western Massachusetts Electric Company	ES	0.00%	0.00%	0.00%	0.00%	0.00%
Yankee Gas Services Company	ES	0.00%	0.00%	0.00%	0.00%	0.00%
Cleveland Electric Illuminating Company	FE	0.00%	0.00%	0.00%	0.00%	0.00%
Jersey Central Power & Light Company	FE	0.00%	0.00%	0.00%	0.00%	0.00%
Metropolitan Edison Company	FE	0.00%	0.00%	0.00%	0.00%	0.00%
Monongahela Power Company	FE	0.00%	0.00%	0.00%	0.00%	0.00%
Ohio Edison Company	FE	0.00%	0.00%	0.00%	0.00%	0.00%
Pennsylvania Electric Company	FE	0.00%	0.00%	0.00%	0.00%	0.00%
Pennsylvania Power Company	FE	0.00%	0.00%	0.00%	0.00%	0.00%
Potomac Edison Company	FE	0.00%	0.00%	0.00%	0.00%	0.00%
Toledo Edison Company	FE	0.00%	0.00%	0.00%	0.00%	0.00%
West Penn Power Company	FE	0.00%	0.00%	0.00%	0.00%	0.00%
Hawaii Electric Light Company, Inc.	HE	1.40%	1.36%	1.35%	1.45%	1.39%
Hawaiian Electric Company, Inc.	HE	0.79%	0.81%	0.84%	0.87%	0.83%
Maui Electric Company, Limited	HE	1.06%	1.09%	1.08%	1.11%	1.08%
Interstate Power and Light Company	LNT	3.84%	4.27%	4.85%	5.21%	4.54%
Wisconsin Power and Light Company	LNT	0.00%	0.00%	0.00%	0.00%	0.00%
New Jersey Natural Gas Company	NJR	0.00%	0.00%	0.00%	0.00%	0.00%
NorthWestern Corporation	NWE	0.00%	0.00%	0.00%	0.00%	0.00%
Northwest Natural Holding Company	NWN	0.00%	0.00%	0.00%	0.00%	0.00%
Kansas Gas Service Company, Inc.	OGS	0.00%	0.00%	0.00%	0.00%	0.00%
Oklahoma Natural Gas Company	OGS	N/A	0.00%	0.00%	0.00%	0.00%
Texas Gas Service Company, Inc.	OGS	0.00%	0.00%	0.00%	0.00%	0.00%
Public Service Electric and Gas Company	PEG	0.00%	0.00%	0.00%	0.00%	0.00%
Portland General Electric Company	POR	0.00%	0.00%	0.00%	0.00%	0.00%
Kentucky Utilities Company	PPL	0.00%	0.00%	0.00%	0.00%	0.00%
Louisville Gas and Electric Company	PPL	0.00%	0.00%	0.00%	0.00%	0.00%
PPL Electric Utilities Corporation	PPL	0.00%	0.00%	0.00%	0.00%	0.00%
South Jersey Gas Company	SJI	0.00%	0.00%	0.00%	0.00%	0.00%
Missouri Gas Energy	SR	0.00%	0.00%	0.00%	0.00%	0.00%
Spire Alabama Inc.	SR	N/A	0.00%	0.00%	0.00%	0.00%
Spire Gulf Inc.	SR	0.00%	0.00%	0.00%	0.00%	0.00%
Spire Mississippi Inc.	SR	0.00%	0.00%	0.00%	0.00%	0.00%
Spire Missouri Inc.	SR	0.00%	0.00%	0.00%	0.00%	0.00%
Energy Future Holdings Corp	SRE	0.00%	0.00%	0.00%	0.00%	0.00%
Oncor Electric Delivery Company LLC	SRE	0.00%	0.00%	0.00%	0.00%	0.00%
San Diego Gas & Electric Company	SRE	0.00%	0.00%	0.00%	0.00%	0.00%
Southern California Gas Company	SRE	0.31%	0.33%	0.38%	0.45%	0.37%
Southwest Gas Corporation	SWX	0.00%	0.00%	0.00%	0.00%	0.00%

Notes:

[1] Natural Gas and Electric Operating Subsidiaries with data listed as N/A from SNL Financial have been excluded from the analysis.

[2] SNL Financial

CAPITAL STRUCTURE ANALYSIS
CUSTOMER DEPOSIT RATIO

Proxy Group Company	Ticker	2017	2016	2015	2014	Average
ALLETE, Inc.	ALE	0.00%	0.00%	0.01%	0.00%	0.00%
Alliant Energy Corporation	LNT	0.03%	0.04%	0.10%	0.12%	0.07%
Atmos Energy Corporation	ATO	0.37%	0.67%	0.95%	1.09%	0.77%
Black Hills Corporation	BKH	0.91%	1.16%	0.79%	0.88%	0.93%
CMS Energy Corporation	CMS	0.20%	0.23%	0.27%	0.31%	0.25%
Consolidated Edison, Inc.	ED	1.00%	1.06%	1.38%	1.27%	1.18%
Eversource Energy	ES	0.25%	0.24%	0.24%	0.22%	0.24%
FirstEnergy Corporation	FE	1.17%	1.24%	1.26%	1.29%	1.24%
Hawaiian Electric Industries, Inc.	HE	0.52%	0.56%	0.66%	0.74%	0.62%
New Jersey Resources Corporation	NJR	0.62%	0.56%	0.60%	0.72%	0.62%
Northwest Natural Gas Company	NWN	0.35%	0.36%	0.41%	0.42%	0.38%
NorthWestern Corporation	NWE	0.17%	0.18%	0.20%	0.21%	0.19%
ONE Gas, Inc.	OGS	1.86%	1.91%	2.42%	2.55%	2.18%
Portland General Electric Company	POR	0.28%	0.34%	0.34%	0.33%	0.32%
PPL Corporation	PPL	0.51%	0.47%	0.46%	0.50%	0.49%
Public Service Enterprise Group Inc.	PEG	0.49%	0.56%	0.66%	0.74%	0.61%
Sempra Energy	SRE	0.53%	0.52%	0.53%	0.63%	0.55%
South Jersey Industries, Inc.	SJI	2.41%	3.50%	1.49%	1.46%	2.22%
Southwest Gas Corporation	SWX	2.18%	2.32%	2.39%	2.39%	2.32%
Spire, Inc.	SR	2.05%	1.61%	1.63%	1.59%	1.72%
MEAN		0.80%	0.88%	0.84%	0.87%	0.85%
LOW		0.00%	0.00%	0.01%	0.00%	0.00%
HIGH		2.41%	3.50%	2.42%	2.55%	2.32%

CUSTOMER DEPOSIT RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2017	2016	2015	2014	Average
ALLETE (Minnesota Power)	ALE	0.00%	0.00%	0.01%	0.00%	0.00%
Superior Water, Light and Power Company	ALE	0.00%	0.00%	0.00%	0.00%	0.00%
Atmos Energy Corporation	ATO	0.37%	0.67%	0.95%	1.09%	0.77%
Black Hills Colorado Electric, Inc.	BKH	0.50%	0.49%	0.49%	0.92%	0.60%
Black Hills Energy Arkansas, Inc.	BKH	1.79%	2.50%	1.39%	1.70%	1.84%
Black Hills Gas Distribution LLC	BKH	1.83%	2.60%	1.09%	1.01%	1.63%
Black Hills Northwest Wyoming Gas Utility Company, LLC	BKH	0.70%	0.72%	1.15%	1.04%	0.90%
Black Hills Power, Inc.	BKH	0.19%	0.16%	0.16%	0.16%	0.17%
Cheyenne Light, Fuel and Power Company	BKH	0.46%	0.49%	0.46%	0.44%	0.46%
Consumers Energy Company	CMS	0.20%	0.23%	0.27%	0.31%	0.25%
Consolidated Edison Company of New York, Inc.	ED	1.28%	1.38%	1.46%	1.45%	1.39%
Orange and Rockland Utilities, Inc.	ED	0.68%	0.70%	0.73%	0.80%	0.73%
Rockland Electric Company	ED	1.05%	1.08%	1.96%	1.56%	1.41%
Connecticut Light and Power Company	ES	0.38%	0.35%	0.35%	0.33%	0.35%
NSTAR Electric Company	ES	0.11%	0.13%	0.12%	0.12%	0.12%
NSTAR Gas Company	ES	0.19%	0.19%	0.19%	0.20%	0.19%
Public Service Company of New Hampshire	ES	0.32%	0.28%	0.27%	0.20%	0.27%
Western Massachusetts Electric Company	ES	0.18%	0.17%	0.20%	0.16%	0.18%
Yankee Gas Services Company	ES	0.33%	0.31%	0.33%	0.30%	0.32%
Cleveland Electric Illuminating Company	FE	0.58%	0.64%	0.72%	0.62%	0.64%
Jersey Central Power & Light Company	FE	0.93%	0.82%	0.54%	0.54%	0.71%
Metropolitan Edison Company	FE	1.42%	1.54%	1.52%	1.60%	1.52%
Monongahela Power Company	FE	0.55%	0.60%	0.59%	0.50%	0.56%
Ohio Edison Company	FE	1.17%	1.28%	1.27%	1.13%	1.21%
Pennsylvania Electric Company	FE	0.90%	0.97%	1.05%	1.08%	1.00%
Pennsylvania Power Company	FE	1.66%	1.62%	2.07%	2.19%	1.88%
Potomac Edison Company	FE	2.10%	2.17%	2.32%	2.33%	2.23%
Toledo Edison Company	FE	0.87%	0.88%	0.86%	0.92%	0.88%
West Penn Power Company	FE	1.54%	1.92%	1.72%	1.94%	1.78%
Hawaii Electric Light Company, Inc.	HE	0.57%	0.58%	0.65%	0.74%	0.63%
Hawaiian Electric Company, Inc.	HE	0.42%	0.46%	0.51%	0.60%	0.50%
Maui Electric Company, Limited	HE	0.58%	0.65%	0.82%	0.89%	0.74%
Interstate Power and Light Company	LNT	0.03%	0.06%	0.12%	0.14%	0.09%
Wisconsin Power and Light Company	LNT	0.02%	0.03%	0.08%	0.09%	0.05%
New Jersey Natural Gas Company	NJR	0.62%	0.56%	0.60%	0.72%	0.62%
NorthWestern Corporation	NWE	0.17%	0.18%	0.20%	0.21%	0.19%
Northwest Natural Holding Company	NWN	0.35%	0.36%	0.41%	0.42%	0.38%
Kansas Gas Service Company, Inc.	OGS	1.89%	1.87%	2.06%	1.84%	1.91%
Oklahoma Natural Gas Company	OGS	N/A	2.02%	2.01%	1.88%	1.97%
Texas Gas Service Company, Inc.	OGS	1.82%	1.83%	3.20%	3.92%	2.70%
Public Service Electric and Gas Company	PEG	0.49%	0.56%	0.66%	0.74%	0.61%
Portland General Electric Company	POR	0.28%	0.34%	0.34%	0.33%	0.32%
Kentucky Utilities Company	PPL	0.60%	0.51%	0.46%	0.51%	0.52%
Louisville Gas and Electric Company	PPL	0.71%	0.65%	0.63%	0.69%	0.67%
PPL Electric Utilities Corporation	PPL	0.22%	0.26%	0.29%	0.31%	0.27%
South Jersey Gas Company	SJI	2.41%	3.50%	1.49%	1.46%	2.22%
Missouri Gas Energy	SR	0.64%	0.72%	0.70%	0.81%	0.72%
Spire Alabama Inc.	SR	N/A	1.60%	1.80%	1.71%	1.70%
Spire Gulf Inc.	SR	2.81%	1.65%	1.29%	0.88%	1.66%
Spire Mississippi Inc.	SR	4.11%	3.36%	3.66%	3.74%	3.72%
Spire Missouri Inc.	SR	0.64%	0.72%	0.70%	0.81%	0.72%
Energy Future Holdings Corp	SRE	0.04%	0.08%	0.01%	0.08%	0.05%
Oncor Electric Delivery Company LLC	SRE	0.04%	0.08%	0.01%	0.08%	0.05%
San Diego Gas & Electric Company	SRE	0.78%	0.76%	0.77%	0.78%	0.77%
Southern California Gas Company	SRE	1.27%	1.15%	1.32%	1.57%	1.33%
Southwest Gas Corporation	SWX	2.18%	2.32%	2.39%	2.39%	2.32%

Notes:

[1] Natural Gas and Electric Operating Subsidiaries with data listed as N/A from SNL Financial have been excluded from the analysis.

[2] SNL Financial

S&P 500 Industry Briefing: Utilities

Yardeni Research, Inc.

April 30, 2019

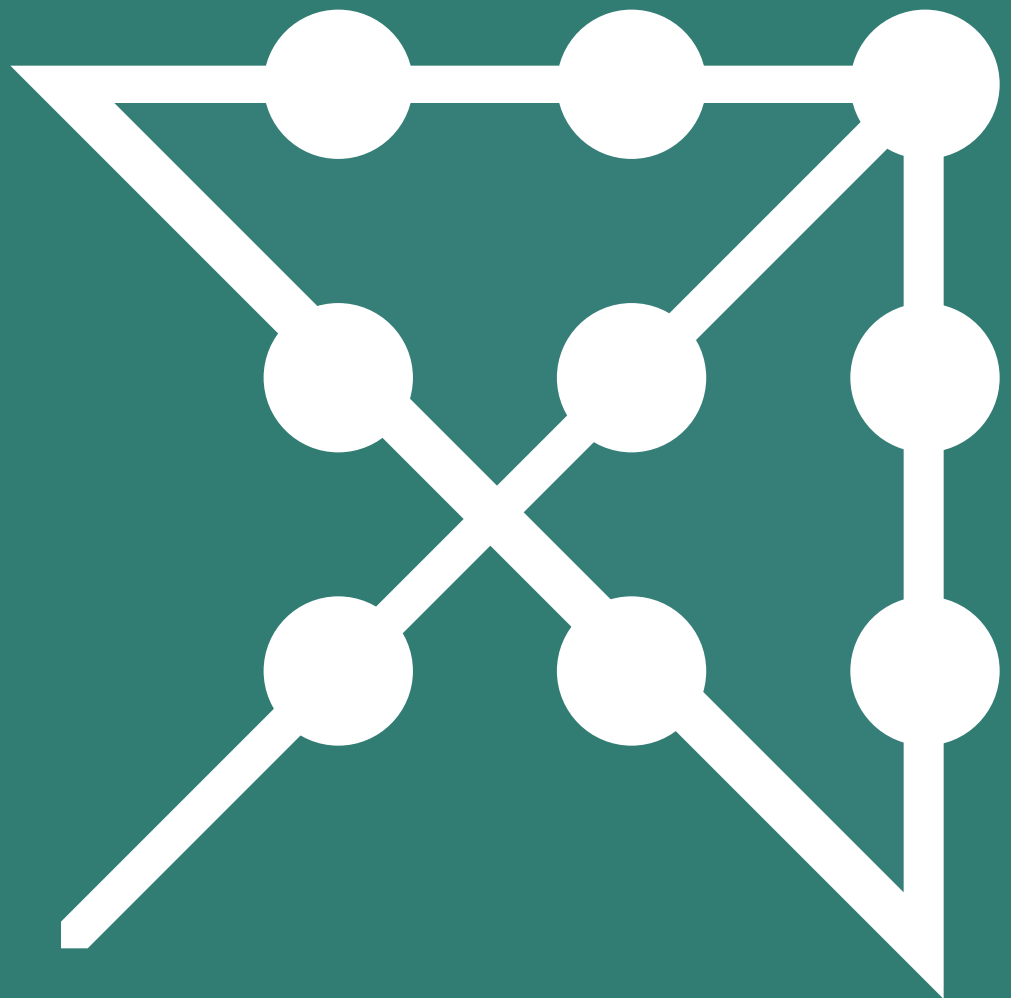
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thinking outside the box

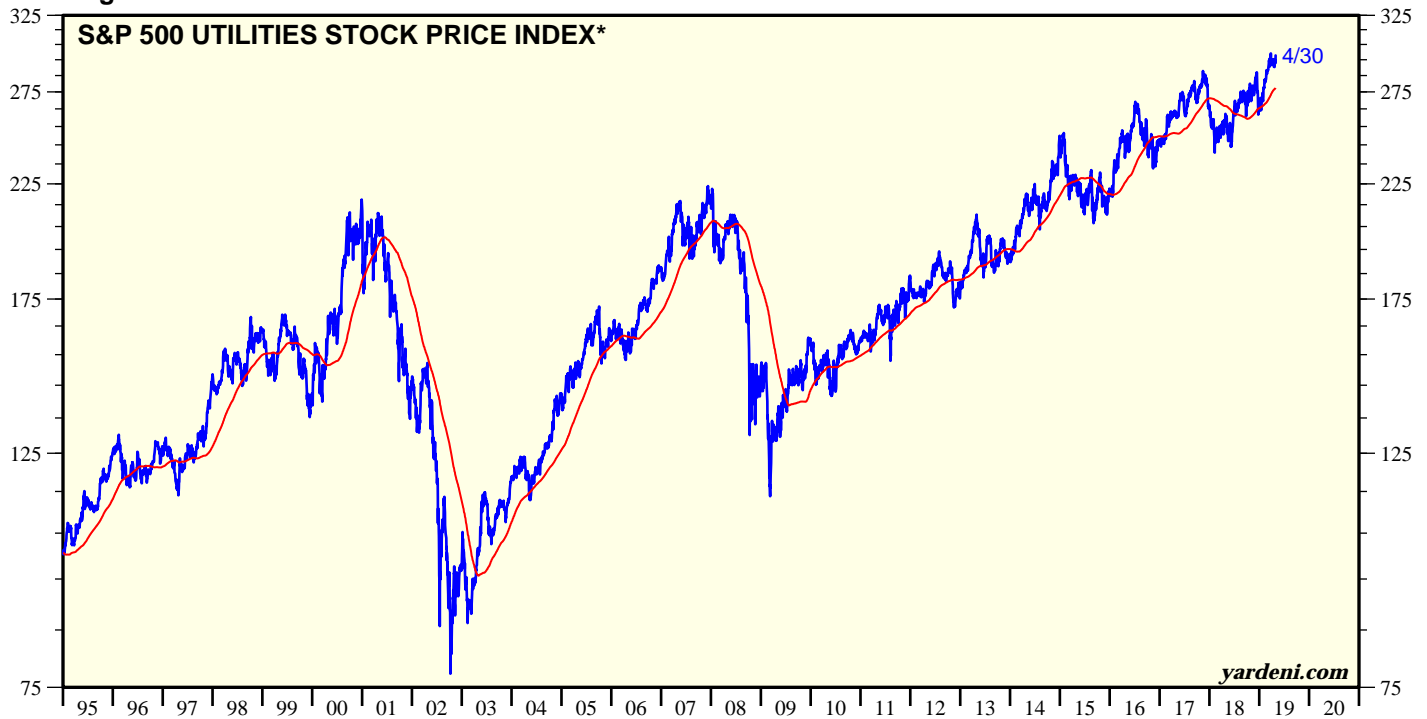
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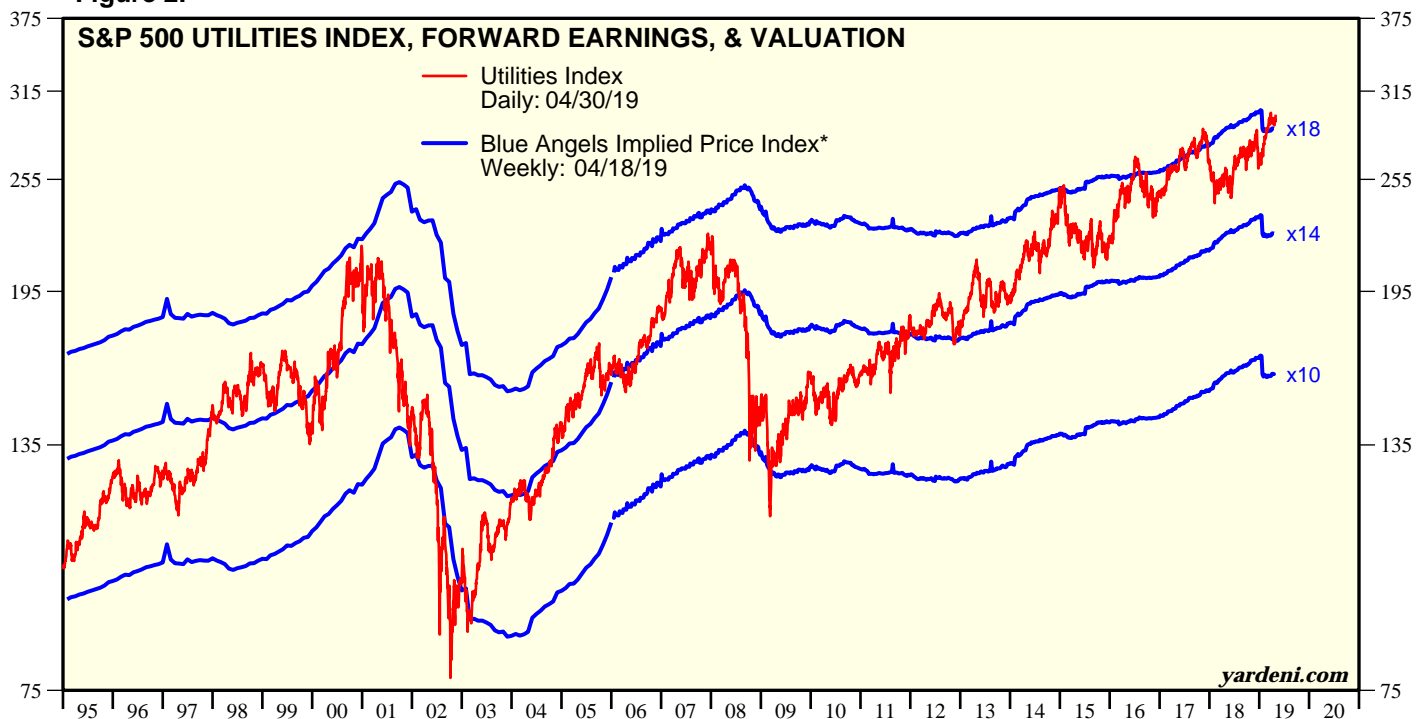
Stock Price Index

Figure 1.



* Ratio scale.
Source: Standard & Poor's and Haver Analytics.

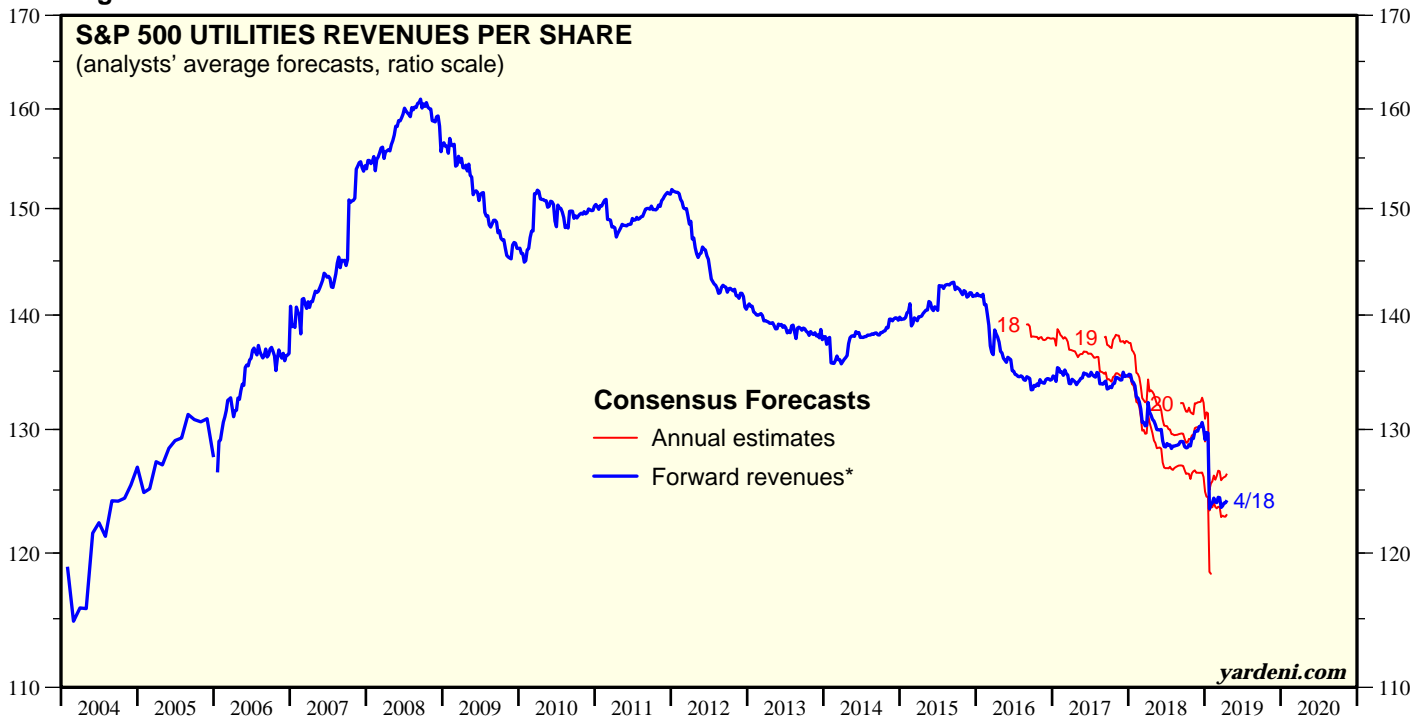
Figure 2.



* Implied price index calculated using forward earnings times forward P/Es.
Source: Standard & Poor's and I/B/E/S data by Refinitiv.

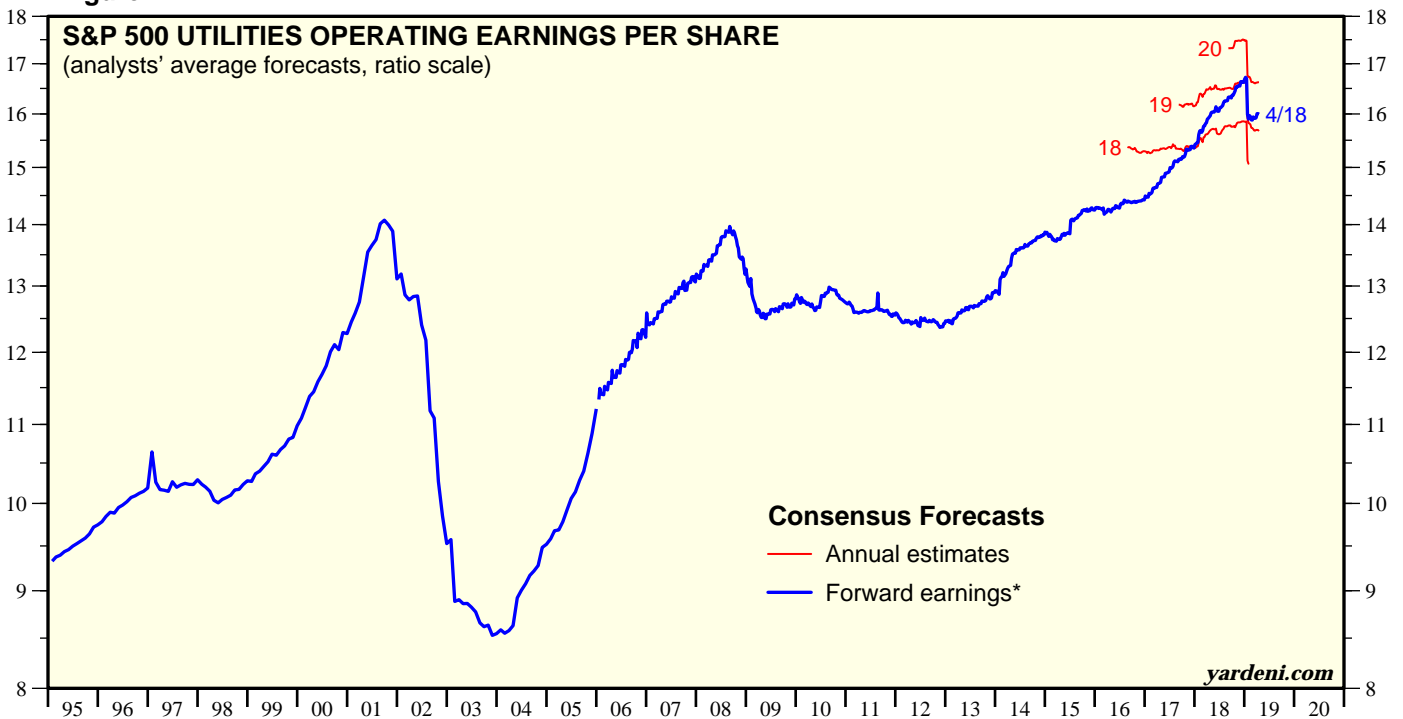
Forward Revenues & Earnings with Annual Squiggles

Figure 3.



* Time-weighted average of consensus estimates for current year and next year. Monthly through December 2005, then weekly.
Source: I/B/E/S data by Refinitiv.

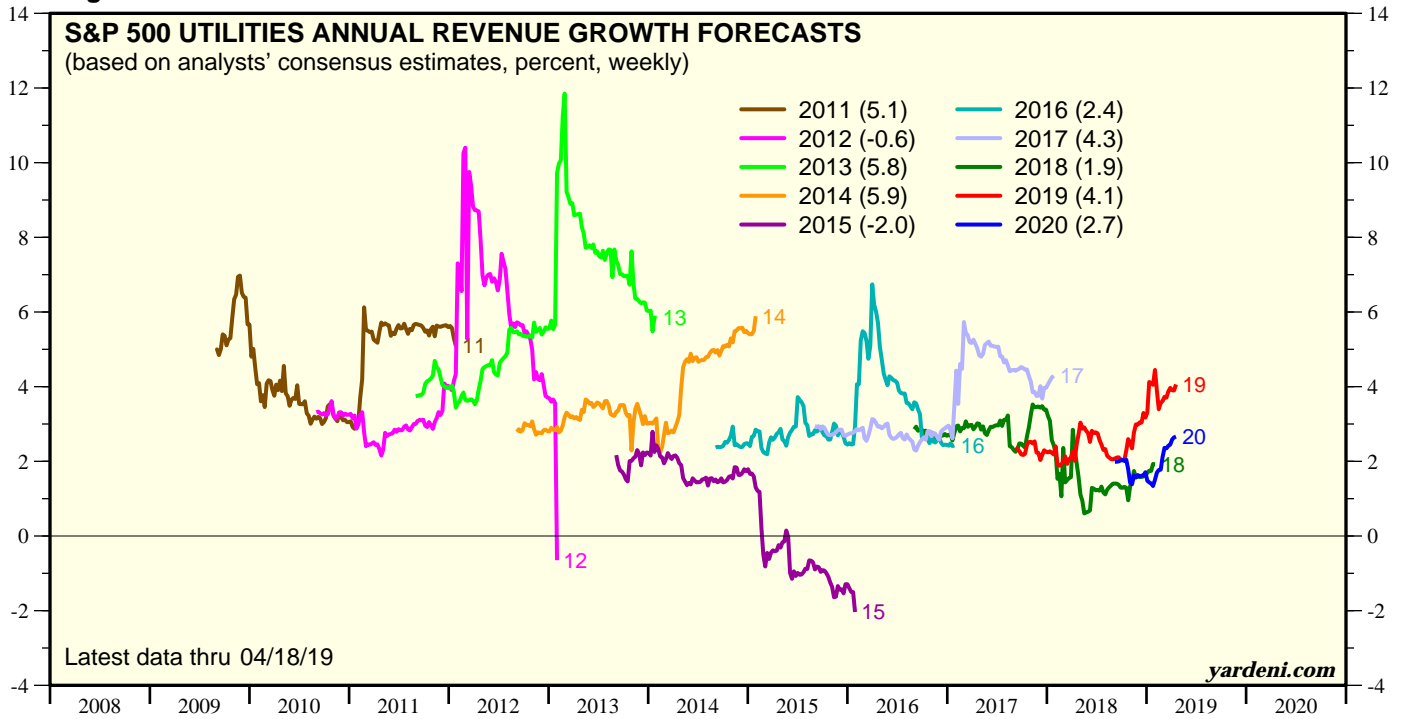
Figure 4.



* Time-weighted average of consensus estimates for current year and next year. Monthly through December 2005, then weekly.
Source: I/B/E/S data by Refinitiv.

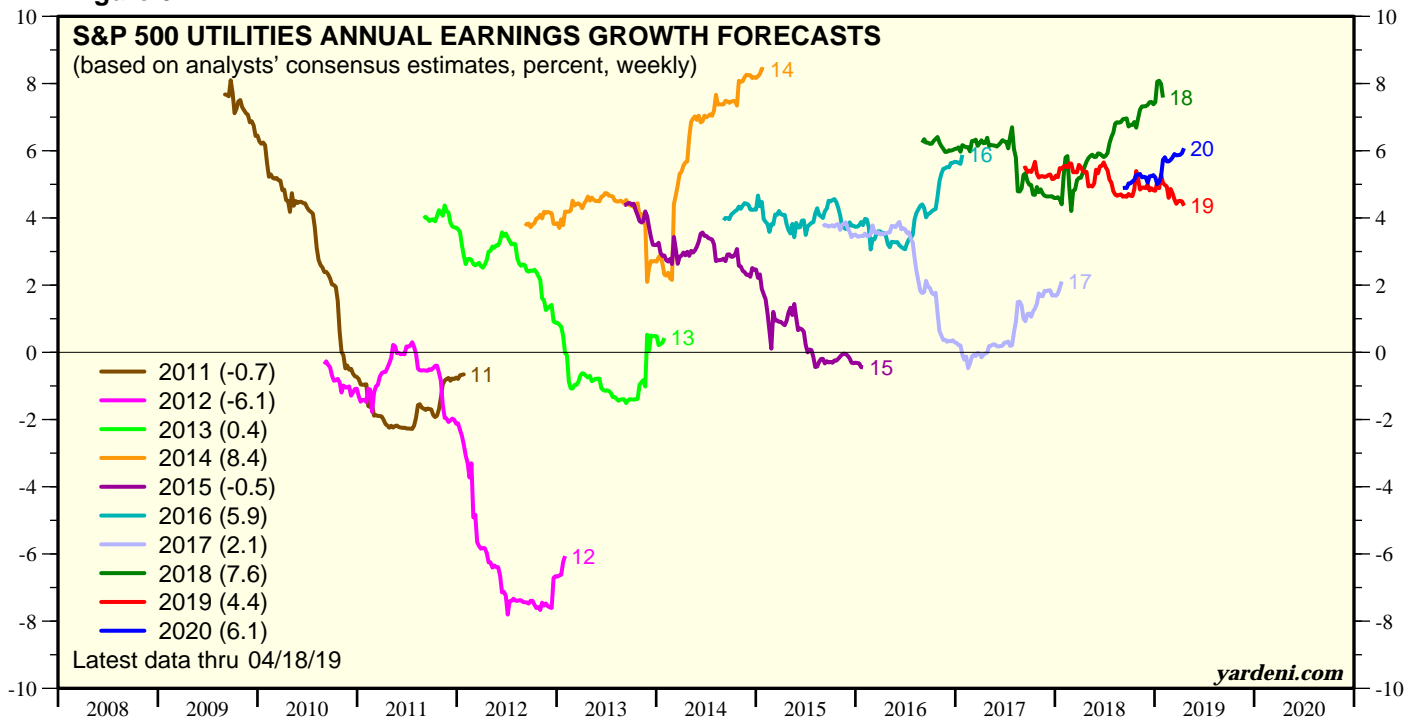
Annual Growth Squiggles

Figure 5.



Source: I/B/E/S data by Refinitiv.

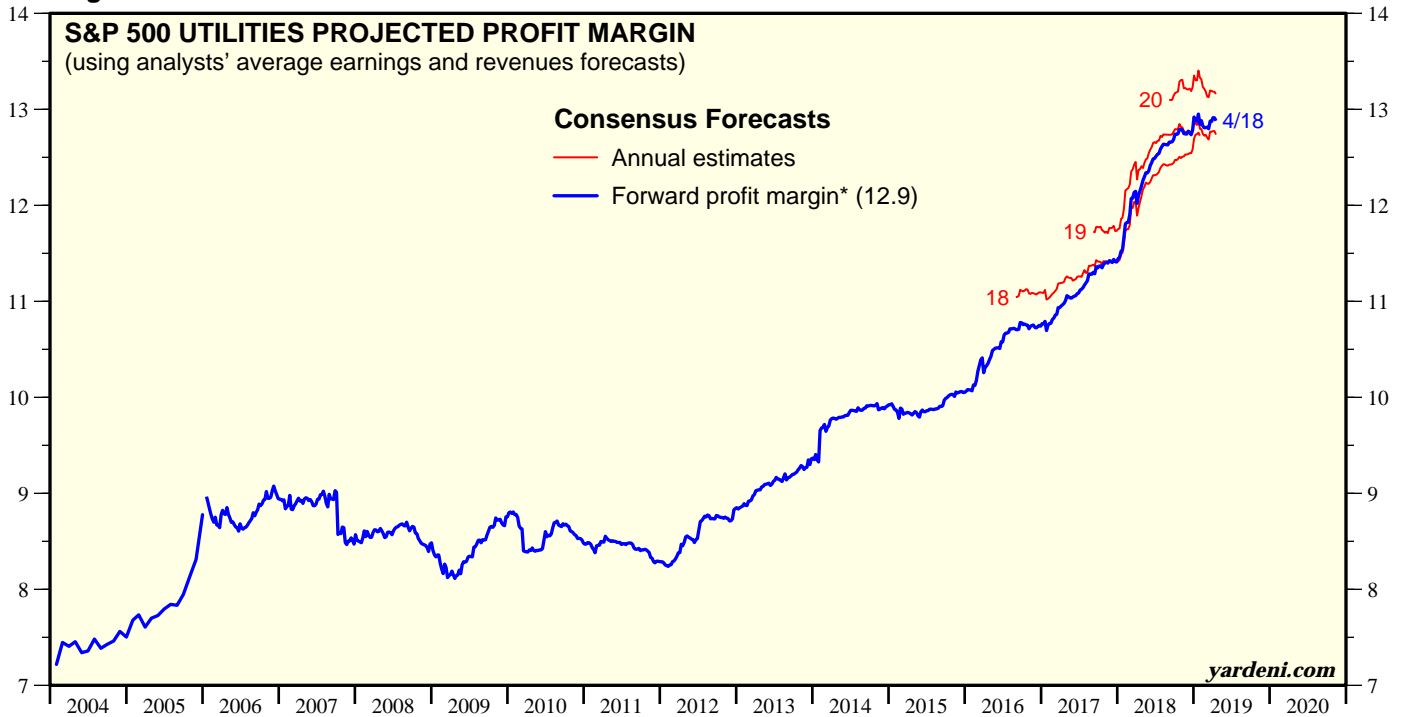
Figure 6.



Source: I/B/E/S data by Refinitiv.

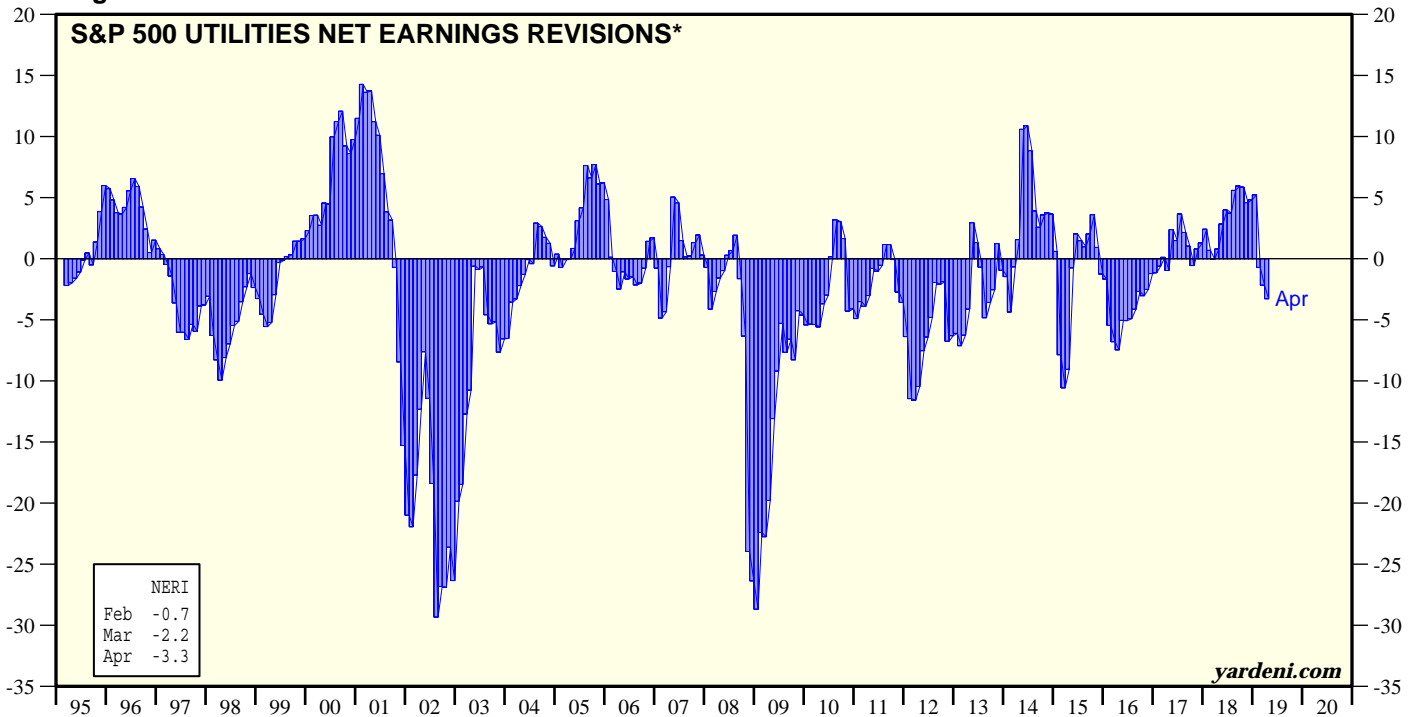
Margins & NERI

Figure 7.



* Time-weighted average of the consensus estimates for current year and next year. Monthly through December 2005, weekly thereafter.
Source: I/B/E/S data by Refinitiv.

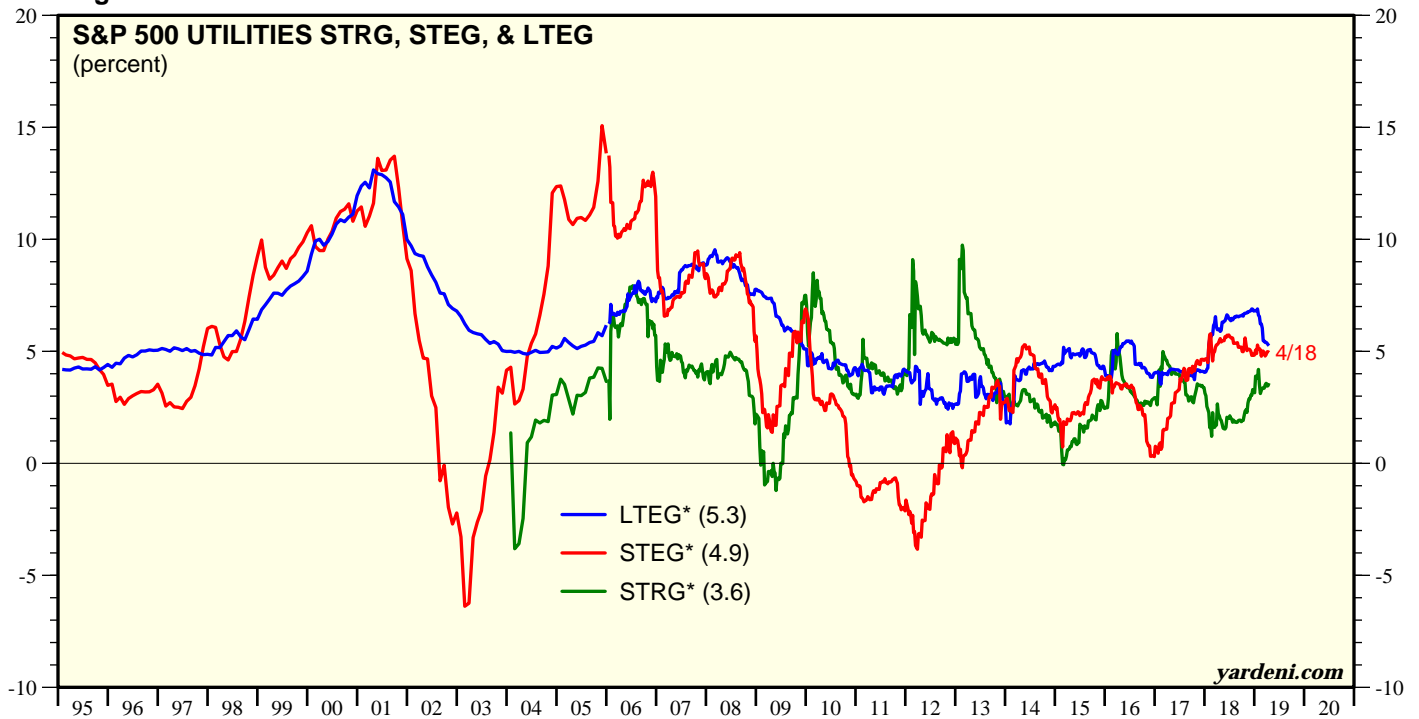
Figure 8.



* Three-month moving average of the number of forward earnings estimates up less number of estimates down, expressed as a percentage of the total number of forward earnings estimates.
Source: I/B/E/S data by Refinitiv.

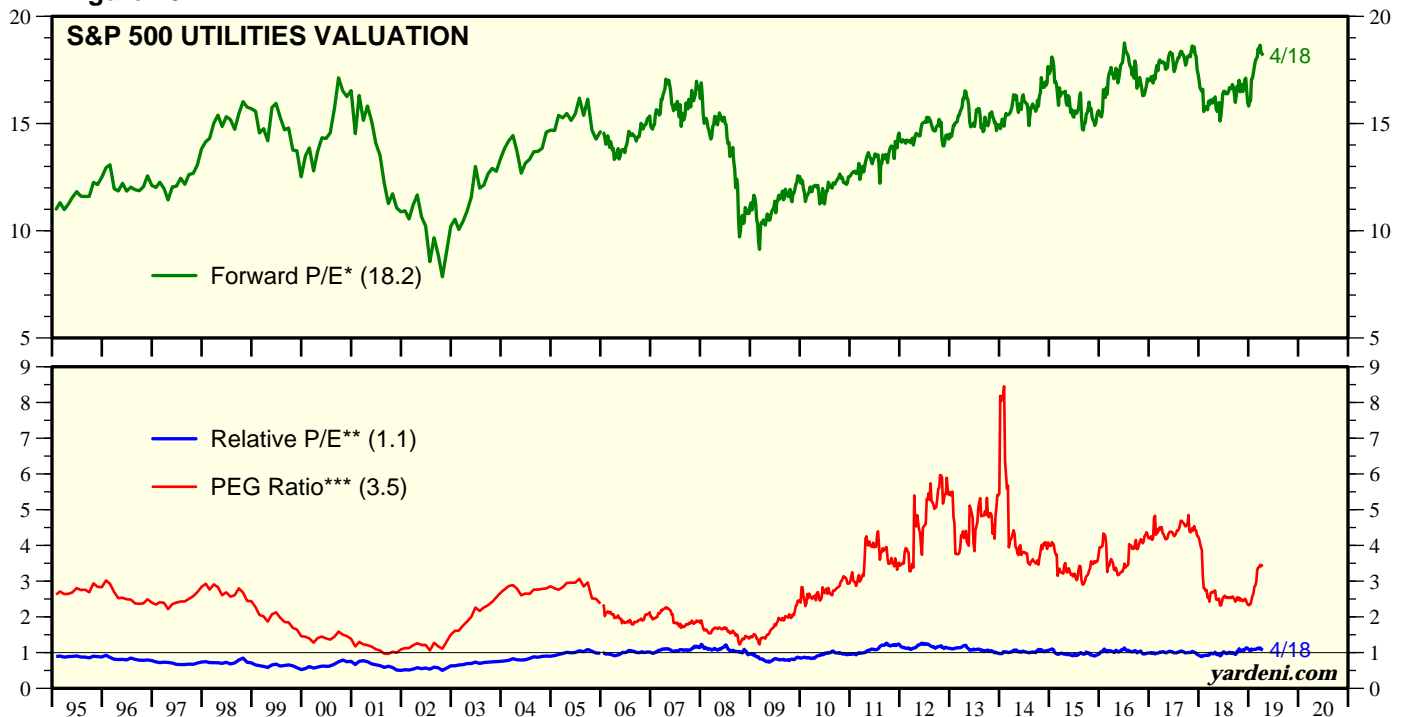
Forward Growth & Valuation

Figure 9.



Note: STEG is year-ahead forward consensus expected short-term earnings growth. STRG is year-ahead forward consensus expected short-term revenue growth. LTEG is five-year consensus expected long-term earnings growth. Monthly data through 2005, weekly thereafter. Source: I/B/E/S data by Refinitiv.

Figure 10.



* Price divided by 12-month forward consensus expected operating earnings per share.
 ** Sector or industry forward P/E relative to S&P 500 forward P/E.
 *** Sector or industry forward P/E relative to sector or industry consensus 5-year LTEG forecast.
 Source: I/B/E/S data by Refinitiv.

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