CASE: UG 388
WITNESSES: MATT MULDOON & MOYA ENRIGHT

PUBLIC UTILITY COMMISSION OF OREGON

STAFF EXHIBIT 1300
Cost of Capital

Staff Testimony in Support of Partial Settlement Stipulation

May 13, 2020

Q. Please each state your name and occupation.

A1. My name is Matt Muldoon. I am the Economic Analysis Program Manager within the Energy Rates, Finance and Audit (E-RFA) Division of the Public Utility Commission of Oregon (Commission or OPUC).

A2. My name is Moya Enright. I am a senior financial analyst in the OPUC E-RFA Economic Analysis Program.

Q. What is your common business address?

A. 201 High Street SE, Suite 100, Salem, OR 97301.

Q. Please describe your educational background and work experience.

A. Our educational background and work experience are set forth in our respective Witness Qualification Statements, provided as Exhibits Staff/1301 and Staff/1302.

Q. What is the purpose of this testimony?

A. We are responsible for the analysis of three Cost of Capital (CoC) issues in Northwest Natural Gas Company (NW Natural, NWN or Company) Docket No. UG 388:

1. Capital Structure;
2. Cost of Common Equity, also known as Return on Equity (ROE); and
3. Cost of Long-Term (LT) Debt.

Q. What is your summary recommendation?

A. Staff concurs with All Parties[1] in the partial settlement as shown herein in recommending a balanced capital structure of 50.0 percent equity and 50.0 percent LT Debt, a point ROE of 9.40 percent, and a 4.529 percent cost of LT Debt. Parties differed on best range of reasonable ROEs, but they converge to recommend said point ROE. When Staff discusses a range of reasonable ROEs hereafter, it only illustrates how Staff's modeling supports the Parties' compromise agreement.

Q. Did you prepare tables showing NW Natural's current, NW Natural's-earlier proposed and the Staff calculated CoC?

A. Yes, the following three tables provide that information.

Table 1

NWN Current OPUC Authorized (UG 344, Order No. 18-419)			NWN
Component	**Percent of Total**	**Stipulated or Implied Cost**	**Weighted Average**
Long Term Debt	50%	5.233%	2.617%
Preferred Stock	0%	-	-
Common Stock	50%	9.40%	4.700%
	100%		**7.317%**

Table 2

NWN Requested – UG 388		NWN Direct Testimony		
Component	**Percent of Total**	**Cost**	**Weighted Average**	**ROR vs. Current**
Long Term Debt	**50.00%**	**5.233%**	2.617%	**0.300%**
Preferred Stock	0.00%		0.000%	
Common Stock	**50.00%**	**10.00%**	5.000%	
	100.00%		**7.62%**	

1 Parties to the Partial Stipulation are NW Natural, Staff, the Oregon Citizens' Utility Board (CUB), and the Alliance of Western Energy Consumers (AWEC), collectively (Parties).

Table 3

Staff Proposed – UG 388		Testimony in Support of Settlement		
Component	**Percent of Total**	**Cost**	**Weighted Average**	**ROR vs. Current**
Long Term Debt	**50.0%**	**4.529%**	2.265%	**-0.352%**
Preferred Stock	0.00%		0.000%	
Common Stock	**50.0%**	**9.40%**	4.700%	
100.00%			**6.965%**	

Q. Have you issued data requests (DRs) in this rate case?

A. Yes. Our CoC analysis is informed by Company responses to 77 multipart DRs.

Q. How is your testimony organized?

A. Our testimony is organized as follows:

Q. Did you prepare exhibits in support of your opening testimony?

A. Yes. Staff prepared the following exhibits:

Staff/1303 .... **CONFIDENTIAL** Capital Structure
Staff/1304 .... Value Line (VL) Review of Gas Utilities
Staff/1305 .... **CONFIDENTIAL** Cost of LT Debt Table & Maturity Profile
Staff/1306 .... News that Investors Were Seeing

Q. Does Staff support the Stipulated Terms on CoC?

A. Yes. The Stipulated Terms reflect Staff's analysis, other than rounding. Therefore, Staff recommends that the Commission adopt the Stipulated Terms on CoC. Staff also note the Company is filing within 13 months of a prior general rate case going into effect. While NW Natural did not invoke any precedent in its filing and hoped to increase the Company's overall ROR by 30 basis points (bps) as shown in Table 2, this close proximity between rate cases is still seen by Staff as a material element for the Commission's consideration. As noted, in Table 3, the stipulated overall ROR of 6.965 percent is 65 basis points less – materially lower than – the Company sought in filing this general rate case. Yet all parties agree that the stipulation is fair and contributes to just and reasonable rates.

ISSUE 1 – CAPITAL STRUCTURE

Q. What is the basis for your recommendation for a capital structure of 50.0 percent Common Equity and 50.0 percent LT Debt?

A. NW Natural requested a continued authorized capital structure of 50 percent equity and 50 percent long-term debt.[2] Staff has examined actual and projected information provided by NW Natural in Exhibit Staff/1303 in response to Staff DRs 38 and 286, in addition to Staff analysis and review of NW Natural's Annual 10-k SEC filing. Staff finds that the stipulated 50 percent common equity capital structure reflects the Company's actual capital structure and is consistent with a Commission-preferred balanced capital structure.[3]

Q. How has the Commission viewed capital structure?

[2] See NW Natural/200 Wilson/8 regarding requested capital structure.

[3] See as an example Commission discussion of equity structure in the floatation of PGE Stock after the Enron Bankruptcy.

A. The Commission has generally accepted that a capital structure with 50 percent common equity and 50 percent LT Debt balances the lower cost of borrowing against the credit enhancement represented by equity.

Given that the actual and projected values for capital structure are consistent with Commission precedent, Staff recommends that the Commission find a 50 percent common equity capital structure reasonable.

ISSUE 2 – COST OF COMMON EQUITY (ROE)

Q. What point ROE within what range of reasonable ROEs does Staff recommend?

A. Staff recommends, as do the other Parties, a point ROE of 9.40 percent at the top of a range of reasonable ROEs of 8.80 to 9.35 percent. Although the ROE of 9.40 represents the upper limit rounded up, considering other factors contributing to ROR, Staff finds this settlement to be reasonable.

Q. What are the national trends in ROEs authorized in the contiguous U.S. last year?

A. Based on data gathered by Regulatory Research Associates, a group within S&P Global Market Intelligence, the average ROE authorized gas utilities was 9.71% in rate cases decided in 2019, versus 9.59% in 2018. There were 32 gas ROE determinations in 2019, versus 40 in 2018.[4]

[4] See Staff/1306 Muldoon-Enright/9 for “A Deep Dive into US Gas ROE Authorizations in 2019” by Lisa Fontanella – Regulatory Research Associates (RRA), An Affiliate of S&P Global Market Intelligence – Feb. 18, 2020

Q. How is it reasonable that when authorized GAS ROEs rose 12 bps year-over-year, Staff recommend that the Commission allow no increase in ROE for NWN?

A. Staff does not find that the authorizations in the past year could have reasonably anticipated the market downturn we are currently experiencing. It is reasonable therefore to recommend caution before presuming that trends in advance of new information would continue into this year or be appropriate for the time rates would be in effect following this general rate case.

Q. Does your recommended ROE meet appropriate standards?

A. Yes. The 9.40 percent ROE Staff recommends is more appropriately reflective of forward looking conditions and meets the *Hope* and *Bluefield* standards, as well as the requirements of Oregon Revised Statute (ORS) 756.040.[5] Staff recommendations are consistent with establishing "fair and reasonable rates" that are both "commensurate with the return on investments in other enterprises having corresponding risks" and "sufficient to ensure confidence in the financial integrity of the utility, allowing the utility to maintain its credit and attract capital."[6]

Q. Do Staff and the Company agree in this regard?

A. Yes. Staff and the Company apply the same legal standards. While the Company and Staff may disagree on what range of ROEs is reasonable, all

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5 *See Federal Power Commission v. Hope Natural Gas Co*., 320 U.S. 591 (1944) and *Bluefield* Water *Works & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

6 *See* ORS 756.040(1)(a) and (b).

Parties agree that the 9.40 percent point ROE is appropriate. Staff finds this ROE commensurate with that of other peer utilities and other investment opportunities with risk exposure similar to NW Natural. Staff's position is predicated upon what was known and knowable at time of settlement. It is important to recall that CNBC recorded the S&P highest market valuation in 18 years on February 21, 2020.[7]

Q. What is the primary contributing modeling that supports Staff's recommended 9.40 percent point ROE?

A. Staff's two different three-stage discounted cash flow (DCF) models are the primary foundation for Staff's recommended point ROE.

Q. Did you perform indicator modeling as a general check on this recommendation?

A. No. Had Staff and Parties not settled, Staff would have used Single-Stage DCF Modeling, Capital Asset Pricing Modeling (CAPM), and Risk Premium Modeling (RPM) analysis as general indicators to further test the proposed 9.40 percent ROE. To keep this testimony in support fairly concise and to minimize the burden of distributing testimony, Staff testimony in support will primarily show how Staff's two primary comprehensive models support the Parties recommended 9.40 percent point ROE for NW Natural, without exhaustive examples of usual and customary Staff modeling components.

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[7] See CNBC https://www.cnbc.com/2020/02/21/the-sp-500-just-passed-its-highest-valuation-level-in-almost-18-years.html.

PEER SCREEN

Q. How did you select comparable companies (peers) to estimate NW Natural's ROE?

A. Staff used companies that met the following criteria as peer utilities to the regulated gas utility activities of NW Natural:

1. Covered by Value Line (VL) as a gas utility;
2. Forecasted by VL to have positive dividend growth;
3. LT Issuer Credit Rating equal to or better than BBB- from S&P, or Baa3 from Moody's;
4. No decline in annual dividend in last four years based on VL;
5. Has heavily regulated natural gas LDC revenue;
6. Has LT Debt under 56 percent in VL Capital Structure; and
7. Has no recent merger and acquisition activity.

Q. NW Natural looked at water investor owned utilities (IOU) followed by Value Line in addition to natural gas utilities. Did Staff also look at water utilities?

A. Yes, Staff looked at water IOUs as a sensitivity. Staff's testimony in support will not go into substantive detail about sensitivities in Staff's modeling.

Table 4

1	2	3	4	5	6
		Sensitivities:	1	VL H2O Utilities passing Staff Peer Screen	
	Water Utilities		2	VL H2O Utilities passing Company Screen	
	NWN UG 388				
		Gas Group			
	Abbreviated	UG 388	UG 388	VL Corporate Name	
#	Utility	Company	Staff	Water Utility	Ticker
1	American States	Yes	No	American States Water Company	AWR
2	American Water	Yes	No	American Water Works Company, Inc.	AWK
3	Aqua America	No	No	Aqua America, Inc.	WTR
4	CA Water	Yes	Yes	California Water Service Group	CWT
5	CT Water	No	No	Connecticut Water Service, Inc.	CTWS
6	Consolidated H_2O	No	No	Consolidated Water Co. Ltd	CWCO
7	Middlesex Water	Yes	Yes	Middlesex Water Company	MSEX
8	SJW Group	No	No	SJW Group	SJW
9	York Water	Yes	Yes	York Water Company, The	YORW

The key thinking is that given high recent water IOU valuations, gas utilities and Staff will likely continue to look at the water utilities as a sensitivity worthy of tracking to compare with gas utility ROE modeling results. The differences shown in Table 4 between Staff and Company recommended water utility peers to NWN are not material at this time. More, this is a flag that the Commission will be seeing more modeling of water utilities as sensitivities going forward in future gas utility rate cases.

Q. What peer groups of gas utilities did Staff and Company ROE modeling primarily depend on, and were there similarities?

Table 5

1	2	3	4	5	6
		Screen:	**1**	**VL Gas Utilities passing Staff Peer Screen**	**80% Mid Cap**
	Natural Gas	**Sensitivities:**	**2**	VL Gas Utilities passing Company Screen	
	NWN UG 388				
		Gas Group			
#	**Abbreviated Utility**	**UG 388 Company**	**UG 388 Staff**	**VL Corporate Name Gas Utility**	**Ticker**
1	Atmos	**Yes**	**Yes**	Atmos Energy Corporation	**ATO**
2	Chesapeake	**Yes**	**No**	Chesapeake Utilities Corporation	**CPK**
3	New Jersey	**Yes**	**No**	New Jersey Resources Corporation	**NJR**
4	NiSource	**Yes**	**Yes**	NiSource Inc.	**NI**
5	Northwest Natural	**Yes**	**No**	Northwest Natural Gas Company	**NWN**
6	ONE Gas	**Yes**	**Yes**	ONE Gas, Inc.	**OGS**
7	South Jersey	**Yes**	**No**	South Jersey Industries, Inc.	**SJI**
8	Southwest Gas	**Yes**	**No**	Southwest Gas Holdings, Inc.	**SWX**
9	Spire	**Yes**	**Yes**	Spire, Inc. (Formerly: The Laclede Group, Inc.)	**SR**
10	**UGI**	**No**	**No**	**UGI Corporation (Propane Focus / VL)**	**UGI**
11	WGL	**No**	**No**	WGL Holdings, Inc.	**WGL**

A. Staff and NW Natural both declined UGI Corporation with its heavy reliance on propane distribution and WGL Holdings, Inc. However, Staff has a standard approach to peer utilities and we will cover some key thoughts.

Q. What is the primary goal when evaluating potential peer utilities?

A. Staff is looking for utilities that most closely resemble the regulated Northwest Natural Gas Company, not that are most like Northwest Natural Holding Company. That means Staff seeks potential peer utilities that are very highly regulated.

Q. Why doesn't Staff also look at diversified utilities as potential peers for NW Natural Gas?

A. Diversified utilities with exposure to oil and natural gas exploration and other potentially profitable, but riskier business lines can boost returns, but there is much more volatility or variability in cash flows year to year than pure-play local gas distribution companies (LDC). In modeling, Staff seeks clarity and to be informed. Clarity is best in least complicated focused utilities rather than in complex conglomerates.

Q. How does Staff determine to what extent a gas utility is regulated?

A. Staff looks at the proportion of total operating revenues that come from regulated utility operations, as shown in the Company's last annual report SEC Form 10-K.

Q. Why doesn't Staff look at the portion of assets that are associated with regulated utility business?

A. Utilities are asset intensive. In contrast, many other businesses are what Enron called "asset light". As an example, consider a holding company that has three divisions: florists, heating and air conditioning installation, and a natural gas regulated utility. The florists may require almost no assets to generate its income. The installation company may also have little investment in assets compared to the utility.

The installation company may have variation in annual cash flows more reflective of the general economy than the regulated gas utility. In a downturn in the economy, fewer customers may upgrade their heating and air conditioning systems. Looking at assets can mask riskier business lines that require less capital spending to operate the business.

Q. Did Staff's peer group for three-stage DCF modeling reasonably address peer utility capitalization size?

A. Yes. Most of Staff's peer group is the small to mid-cap market capitalization size like NW Natural. Staff therefore makes no adjustments for capitalization size in its three-stage DCF modeling.

Q. Is there a pattern to Staff's approach?

A. Yes. The closer the peer group is to NW Natural's actual regulated gas utility experience, the less outboard adjustment is required to generate modeling that is reasonably predictive for NW Natural.

Q. What are the results of your multistage DCF models?

A. See Table 6 below for the results from Staff's three stage DCF modeling.

Table 6
Results of Staff's 3-Stage DCF Modeling

Common Stock Flotation Costs Adjustment Shifts Range of Reasonable ROE's Upward by :					12.5	bps
Range of Modeled Results		8.25%	to	9.35%	ROE	
		Midpoint	8.80%			
Best Fit Range of Reasonable ROEs		8.80%	to	9.35%	ROE	
(Best fit is Staff's Hamada adjusted screened gas utilities that have most similar characteristics to AVA regulated gas operations in Oregon)						
		Midpoint	9.1%	ROE		
Staff Point ROE Recommendation:						
		Top	9.4%	ROE		

GROWTH RATES

Q. What long-term growth rates did you use in Staff's two three-stage DCF models?[8]

A. Staff used three different long-term growth rates, with different methods employed in developing each.

8 Methods used here related to GDP-based growth rates are similar, if not identical to methods Staff has used in past proceedings. *See*, as an example, Staff's discussion of these methods and, to a limited extent, their conceptual underpinnings in Docket No. UE 233, Exhibit Staff/800, Storm/46 – 52.

The first method uses the U.S. Congressional Budget Office's (CBO) 4.0 percent nominal 20-year GDP growth rate estimate.

Staff's second Composite Growth Rate applies a 50 percent weight to the average annual growth rate resulting from estimates of long-term GDP by the U.S. Energy Information Administration (EIA), the U.S. Social Security Administration, PricewaterhouseCoopers estimate for long-run (10- to 30-years from now), and the CBO, with each receiving one-quarter of that 50 percent weight.[9] The remaining 50 percent is the average annual historical real GDP growth rate, established using regression analysis, for the period 1980 through 2017 to which we apply the TIPS inflation forecast discussed above.

Staff's third "Near Historical" Stage 3 annual growth rate, is an equal weighted average of the earlier described U.S. Bureau of Economic Analysis (BEA) derived projection which presumes the future will look much like the past. Table 7 below captures LT GDP growth rates Staff used.

Q. Did your analysis reflect a synthetic forward curve?

A. Yes, Staff utilized synthetic forward curve using UST Treasury Inflation Protected Securities (TIPS) break-even points. This reflects implied market-

[9] The EIA is the Energy Information Administration within the U.S. Department of Energy (DOE), OMB is the Office of Management and Budget, and CBO is the Congressional Budget Office. EIA and OMB's estimates are of nominal GDP. We applied to CBO's estimate of real GDP as an inflation rate for the relevant timeframe developed using the Treasury Inflation-Protected Securities method described by Staff in testimony in multiple recent general rate case proceedings.

based inflationary expectations. Staff's recommendations are consistent with market activity indicating investor expectations of future inflation.

Staff assumes for purposes of its three-stage DCF modeling that LDC utility growth is bounded by the growth of the U.S. economy, and more specifically impacted by challenges regarding U.S. population and productivity in the long-run (20-year) modeling period.

Q. Assume one presumed that future U.S. GDP growth would look like the past 30 years. Would a ROE based on that assumption still fall within Staff's recommended range?

A. Yes, Staff extracted and ran regression on data from the U.S. Bureau of Economic Analysis (BEA) to generate the annual real historical GDP growth rate. Staff recommended range of ROEs includes values that presume GDP growth over the next 30 years would look like that of the past 30 years informed by other federal projections.

Table 7
Growth Rates Staff Relied Upon

Stage 3 – Long-Term Annual Dividend and EPS Growth Rates					
Component	**Real Rate**	**TIPS Inflation Forecast**	**20-Yr Nominal Rate**	**Weight**	**Weighted Rate**
Energy Information Administration	**2.00%**	**1.99%**	4.03%	12.50%	0.50%
PricewaterhouseCooper	**1.80%**	**1.99%**	3.83%	12.50%	0.48%
Social Security Administration	**2.20%**	**1.99%**	4.23%	12.50%	0.53%
Congressional Budget Office			**4.00%**	12.50%	0.50%
BEA Nominal Historical	**2.76%**	**1.99%**	4.80%	50.0%	2.40%
Composite				100%	**4.41%**
Congressional Budget Office Long-Term 20-Year Budget Outlook			**4.00%**	100.0%	**4.00%**
BEA Nominal Historical	**2.76%**	**1.99%**	4.80%	100.0%	**4.80%**

Q. How do your methods employed in this case differ from those utilized by Staff in recent general rate cases?

A. Staff's methods and modeling parallel those employed by Staff in recent general rate cases, with the exception that we spent more time in this case working with water utilities as a sensitivity addition to the primary analysis.

Q. Describe the two three-stage DCF models on which you primarily rely.

A. Staff's first model is a conventional three-stage discounted dividend model, which Staff denotes as a "30-year Three-stage Discounted Dividend Model with Terminal Valuation based on Growing Perpetuity" (referred to as "Model X"). This model captures the thinking of a money manager at a pension fund or insurance company, or other institutional investor, who expects to keep the Company's stock indefinitely and use the dividend cash flow to meet future obligations.

Staff's second model is the "30-year Three-stage Discounted Dividend Model with Terminal Valuation Based on P/E Ratio" (referred to as "Model Y"). This model best fits the investor who has a goal they are working towards. In addition to the income stream from dividends, this investor intends to sell the stock as the goal is reached.

Both models require, for each proxy company analyzed by Staff, a "current" market price per share of common stock, estimates of dividends per share to be received over the next five years calculated from information provided by Value Line, and a long-term growth rate applicable to dividends 10- to 30-years out. On this last point, Staff always recommends the

Commission always be particularly vigilant for any substitution of a short-term growth rate for a long-term 20- to 30-year growth rate. Some growth rates labeled “long” may be supported by information looking at the next ten years or less into the future.

For a smooth transition, Staff steps the rate of dividend growth between the near-term (the next five years) and that of long-run expectations.

Q. How does Model X calculate the terminal value of dividends as a perpetual cash flow into the future?

A. Model X includes a terminal value calculation, in which Staff assumes dividends per share grow indefinitely at the rate of growth in Stage 3 (“growing perpetuity”). In contrast, Model Y terminates in a sale of stock where the price is determined by our escalated price/earnings (P/E) ratio.

Q. Why is thirty years the primary horizon for financial decision-making?

A. Investors focus on the 30-year U.S. Treasury (UST) Bond against alternate investment opportunities. Thirty years is a generally accepted period for economists to ascribe to one generation. It is a common length of time for mortgages of plants, equipment, and homes. Many institutional holders of utility securities match the cash flows from utility dividends to future obligations, such as the payout of life insurance, preparing to meet future pension and post-retirement obligations, and interest service for borrowing. Individuals plan for the education of their children, ownership of their home, and provision for their retirement on this same multi-decade timeframe.

Staff uses five years for Stage One as that is the timeframe for which Value Line estimates of future dividends are available. This is as far as Value Line projects near-future trends. We use five years for Stage Two as a reasonable length of time for individual companies' dividend growth rates that are materially different from the growth rate used in Stage Three (and common to all companies) to converge to a LT dividend growth rate more representative of all gas utilities.

Q. How do you address dividend timing?

A. Each model uses two sets of calculations that differ in the assumed timing of dividend receipt. One set of calculations is based on the standard assumption that the investor receives dividends at the end of each period.

The second set of calculations assumes the investor receives dividends at the beginning of each period. Each model averages the unadjusted ROE values to generate an Internal Rate of Return (IRR) produced with each set of calculations for each peer utility. This approach accounts for the time value of money, closely replicating actual quarterly receipt of dividends by investors.

Q. What accounts for differences in peer capital structures?

A. Each model employs the Hamada equation[10] to calculate an adjustment for differences in capital structure between each peer utility and Staff-proposed capital structure for the Company. When few peer utilities are available, the

[10] Dr. Robert Hamada's Equation as used in Staff/1304 separates the financial risk of a levered firm, represented by its mix of common stock, preferred stock, and debt, from its fundamental business risk. Staff corrects its ROE modeling for divergent amounts of debt, also referred to as leverage, between the Company and its peers.

Hamada equation ensures Staff's analysis addresses differences in peer utility capital structures.

Q. What price do you use for each peer utility's stock?

A. Staff used the average of closing prices for each utility from the first trading day in January, February, and March 2020, to represent a reasonable snapshot of utility stock prices.

Q. To recap, do you capture both the perspective of a buy and hold investor and an investor who plans to sell in the future?

A. Yes. The stipulated 9.40 percent point ROE is consistent with findings modeling the perspectives of both types of investors through Staff's two different three-stage DCF models.

Q. Does this approach capture a reasonable set of investor expectations similar to Staff's analysis in other recent general rate cases?

A. Yes, Staff modeling captures the expectations of investors who think that: A) the non-partisan CBO is reliable, B) blended federal agency expert analysis also informs the historical track record, and C) one should be optimistic about the economy's long-run growth, provided there are still enough non-retired adult Americans to make it happen 20 years from now.

Q. Is it appropriate to use estimates of long-term GDP growth rates to estimate future dividends for gas utilities?

A. Yes. In many of the Company's prior rate cases, Staff has shared plots of U.S. gas demand growth since 1950 on a three-year moving average. This downward trending consumption curve allows GDP growth to be a conservative proxy for both gas sales and dividend growth rates.

Q. Can relying on a long-term GDP growth rate overstate required ROE?

A. Yes. It is possible that Staff modeling anticipates greater growth than may be realized and so overstates required ROE to attract investors. Our highest growth rate presumes return to near historical U.S. GDP growth rates.

Q. Is it important to distinguish between long-run 20- to 30-year rates and rates over the next five years?

A. Yes. Over-extrapolating a snapshot of short-term data undermines confidence in modeling results. For example, Value Line, Blue Chip, and a variety of other financial resources focus most on the next five years. The next five years may be affected by recent events. Over the long run, people and productivity are the key drivers of economic growth.

Q. In Staff's two different three-stage DCF models, Staff is looking for growth rates for a period between 10 and 30 years in the future, or an average of 20-years out. Why can't Staff just use a 5- or 10-year projection?

A. Staff could, but there is better information available. If a primary concern is whether enough Americans are both working and highly productive 20 years from now to support a robustly growing economy, 10-year data is not yet impacted by retirement of persons born in 1960 or persons not immigrating and not being born to U.S. families now. A better solution is to use data that is projected with those difficulties in mind.

HAMADA EQUATION

Q. Your application of the Hamada Equation to un-lever peer utility capital structures and to re-lever at NW Natural's target capital structure increases required ROE. Why is this adjustment reasonable?

A. Staff employs the Hamada Equation as a check on the reasonableness of its modeling results. This allows Staff to better compare companies with different capital structures driven by differing amounts of outstanding debt. As earlier discussed, our screening criteria already identify peers that have a very close capital structure to the Company. Use of the Hamada adjusted results helps ensure that Staff has captured all material risk in our analysis because it captures additional risk associated with varying capital structure.

Within the confines of Staff's testimony, one can see the steps to un-lever and re-lever a peer company's capital structure as the equivalent of removing debt of peer companies with varying capital structures, and then adding enough debt back to equal the Company's balanced target capital structure in this general rate case.

Q. Did you use robust and proven analytical methodologies?

A. Yes. Staff's methods are robust, proven, and parallel Staff's work over the last decade.

Q. Describe how you performed your analysis.

A. Using the cohort of proxy companies that met our screens, Staff ran each of Staff's two three-stage DCF models three times, each time using a different long-term growth rate.

Q. Was your analysis consistent with a top supportable finding of 9.40 percent point ROE?

A. Yes.

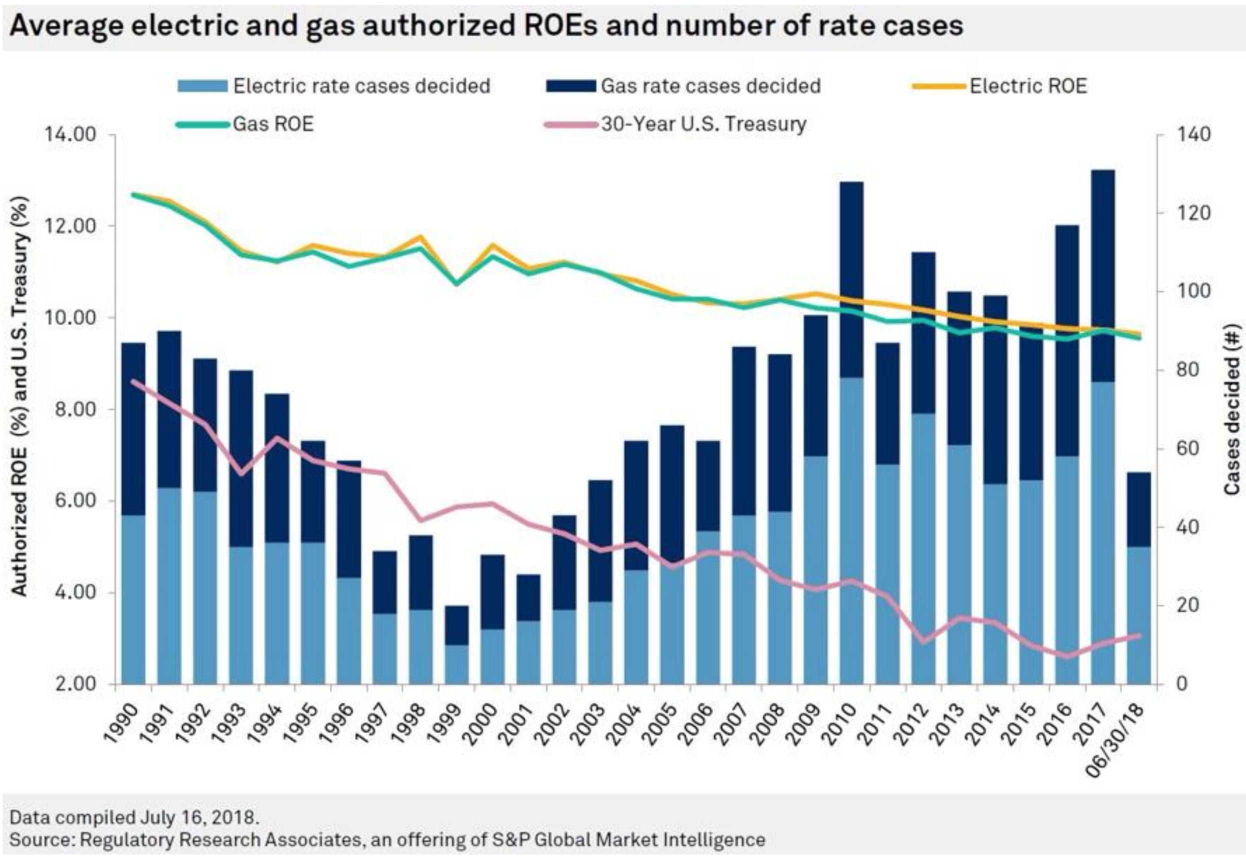
BALANCED APPROACH TO ROE IN A PANDEMIC

Q. Do you believe your results are robust even given the uncertainty around the impact of COVID-19?

A. While Staff believes there is a downward glide path for ROE in Figure 1 below, that trajectory is not linear and may pause through the uncertainties surrounding COVID-19 pandemic impacts on the economy. So, while there may be some macro indicators variously pointing upward or downward, all parties agree that the stipulated ROE is reasonable in the near term when rates will take effect.

Figure 1

Downward Parallel Glide Paths of Utility ROE and 30-Year US Treasuries[11]



Q. What trend is Staff seeing?

A. Since 1990, according to Regulatory Research Associates (RRA), Gas and Electric Utility authorized ROE's have declined as the 30-year US Treasury (UST) has also declined. Now the COVID-19 Coronavirus Pandemic has driven Federal Reserve near tem UST interest rates to near zero, while spreads over UST for A and B rated utility bonds are elevated but falling.

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11 See "Average U.S. Electric, Gas ROE Authorizations in H1'18 Down from 2017" published on August 2, 2018 by Regulatory Research Associates (RRA), an affiliate of S&P Global Market Intelligence. https://www.spglobal.com/marketintelligence/en/news-insights/research/average-u-s-electric-gas-roe-authorizations-in-h1-18-down-from-2017

Were a “great recession” like that experienced in 2007-2009 to follow, it could be some time before we see a rising interest rate environment again. Conversely, utilities have ridden out the market uncertainty better than many other sectors.

Q. How certain are market projections looking into this summer?

A. The full economic impact of COVID-19 is unclear at this time, but while ROEs have generally been trending lower with lower interest rates, recessions have not generally resulted in large decreases to US Investor Owned Utilities (IOU) authorized ROEs and what we are observing right now is an increased premium over treasuries (spread) for debt issuances.

Q. What factor likely has the biggest impact on IOU credit ratings and liquidity?

A. According to EEI and S&P Global Market Intelligence, investment banks, market analysts and rating agencies are closely observing utility commission relationships with utilities. Their determination that Commission jurisdictional energy utilities operate in a constructive regulatory environment may help maintain credit ratings and mitigate future financing issues.12 These are some of the reasons that a balanced approach is reasonable for ROE at this time.

[12] Source: Edison Electric Institute (EEI) “COVID-19 - Market Impacts on the Energy Sector and its Customers” April 1, 2020.

SSUE 3 – COST OF LT DEBT

Q. Briefly summarize Staff's recommendation for NW Natural's Cost of LT Debt.

A. Staff recommends a Cost of LT Debt of 4.529 percent. This represents the cost of all outstanding and forecasted debt, as of the 2021 test year. See Confidential Exhibit Muldoon-Enright/1305 page 1 for a summary table, which displays the LT Debt instruments included in Staff's calculation of LT Debt, along with Staff's calculation thereof.

Q. How has Staff calculated NW Natural's Cost of LT Debt?

A. Staff compiled a comprehensive table of NW Natural's outstanding and forecasted LT Debt as of the 2021 test year, using independent data sources including Bloomberg, SNL, and the Company's SEC filings.

Staff first identified outstanding debt using Bloomberg, and tracked individual debt issuances using their unique CUSIP numbers.[13] Staff exported the details of each issuance, including issuance and maturity dates, yields, issued and outstanding debt amounts, and credit ratings from the Bloomberg database. This data was cross-referenced against the Company's latest SEC filing, and the records available through SNL. As a final step, the data included in the table was confirmed by NW Natural through discovery as being fully accurate.[14]

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13 A CUSIP number is a nine-character alphanumeric code, which identifies financial securities. The acronym "CUSIP" is derived from the Committee on Uniform Security Identification Procedures, a committee of the American Bankers Association.

14 See Exhibit Staff/1305 page 4 for NW Natural's confidential response to DR 152.

Staff used this information to compile a fully comprehensive table of NW Natural's LT Debt, to calculate the yield to maturity of each debt issuance, and finally, to calculate the Company's carrying cost of long-term debt.

Q. NW Natural provided a table of LT Debt in its initial filing. Why not use that?

A. Staff's approach of independently compiling a table of LT Debt is beneficial because it ensures that a clear and impartial record is created. Publicly available information can provide valuable insight and aid with the verification process. For example, the Company's SEC filing includes standardized information, in contrast to a General Rate Case for which no such standardized model exists, and some information may be missed.

Staff's thorough research ensures that when the Cost of LT Debt is calculated, it fully encapsulates the Company's debt issuances, permitting Staff and the Commission to place their full confidence in the integrity of the data therein.

Q. Is this table updated to reflect the anticipated composition of NW Natural's LT debt in the 2021 test year?

A. Yes. Staff has made specific adjustments to NW Natural's current LT Debt holdings to reflect the Company's anticipated debt structure come 2021. These changes include:

- Planned debt issuances **[BEGIN CONFIDENTIAL]** [redacted] **[END CONFIDENTIAL]** have been incorporated.

- The current portion of LT Debt has been excluded.[15]

Q. How has Staff forecasted interest rates for forecasted debt issuances?

A. Staff has forecasted the usual synthetic forward interest rate for NW Natural's forecasted debt issuances. This is shown in Exhibit 1305, page 2.

Staff began this process by surveying forward US Treasury (UST) interest rates[16] over a five-week period, and calculating the average forecasted rate during that period. By taking this approach, Staff ensured that volatility within the month did not bias the forecast, as might have happened if the forecasted rate as observed on a single day was used.

The second step of this process involved calculating the spread between A-Rated Utility bonds and US Treasuries. The "spread" is the difference in borrowing costs for A-Rated utilities compared with less risky US Treasuries. In financial modeling and market or debt securities issuance projections, the UST rates are often called risk free rates. A variable with a subscript RF usually refers to a UST bond or note of applicable tenure.

Finally, Staff applied the spread over UST to the forecasted UST interest rate for like maturity, resulting in the forecasted interest rate for NW Natural's debt issuances **[BEGIN CONFIDENTIAL]** [redacted] **[END CONFIDENTIAL]**.

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15 The current portion of LT Debt includes any debt maturing within one year of the test year.

16 Forward US Treasury rates reflect the market's best estimate borrowing costs on a date in the future. As NW Natural expects to issue debt in **{BEGIN CONFIDENTIAL]** [redacted] **[END CONFIDENTIAL]**, Staff focused its analysis on forecasted forward interest rates for these dates.

Staff favors the approach described above because liquidity in the UST market is high. The large number of buyers and sellers of these securities increases the accuracy of the forecast. The addition of the spread adjusts the forecast to reflect borrowing costs typical of other utilities issuing first mortgage bonds with comparable credit ratings to NW Natural.

Q. Did you prepare a debt maturity profile for NW Natural?

A. Yes. In Exhibit Staff/1305 page 3, Staff has provided a debt maturity profile for the test year, reflecting Staff's proposed Cost of LT Debt table. This profile shows that the Company's forecasted issuances of **[BEGIN CONFIDENTIAL]** [redacted] **[END CONFIDENTIAL]** will avoid maturity concentrations.

Q. Does the table reflect discounts or premiums, debt issuance costs, and hedging losses and gains?

A. Yes. The table fully encompasses discounts or premiums, debt issuance costs, and debt insurance costs. Staff has tied each individual cost back to the associated issuance, and calculated the net proceeds of each debt issuance. The net proceeds of each debt issuance is used to calculate the Yield to Maturity of that issuance, which feeds into Staff's calculation of LT Debt carrying costs.

[BEGIN CONFIDENTIAL] [redacted]

[17] See Exhibit Staff/1305 page 4 for NW Natural's confidential response to DR 152.

[redacted] **[END CONFIDENTIAL]**.

Q. Please detail Staff's investigation of the Company's historic issuance costs.

A. Staff investigated the costs that have historically been incurred by the Company when issuing LT Debt. These costs included legal, shelf, rating agency, accountancy, printing, and underwriting costs.

Through this investigation, Staff determined that the Company's forecasted issuance cost of **[BEGIN CONFIDENTIAL]** [redacted] **[END CONFIDENTIAL]**.

[18] See Exhibit Staff/1305 page 6 for NW Natural's confidential response to DR 157.

Q. Did Staff focus its attention on any specific aspect of LT Debt issuance costs?

A. Yes. Staff paid particular attention to the legal and shelf fees incurred by the Company when issuing LT Debt.

Q. What purpose does Staff's analysis of debt issuance costs serve?

A. This analysis is beneficial in two ways:

- It allows Staff to ensure that the debt issuance costs incurred by the Company are reasonable[19].

- It informs Staff's forecast of the Company's pro forma debt issuance costs, serving as a check on the forecasted costs provided by the Company.

Q. Have any debt instruments relating to the Company's ownership of Gill Ranch Storage LLC (GRS) been included in the cost of LT Debt?

A. No. NW Natural Holding Company arranged to sell its holding in GRS in 2019. During its ownership, $40 million of debt was issued and repaid by GRS. NW Natural was not a party to this debt issuance, and as such, neither the Company nor Staff included the cost of GRS debt instruments in the calculation of the Company's cost of LT Debt.[20] The deadline for completed of the GRS deal has been extended to allow for remotely coordinated discussion.[21]

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[19] Ex: NW Natural issuance of $150 million of 3.60 percent 30-year notes on Mar 31, 2020

[20] See Exhibit Staff/1305 page 7 for NW Natural's response to DR 151.

[21] NWN filed a Form 8K Current Report with the SEC (accessed by Staff on March 25, 2020) noting the extension to May 15, 2020, as identified under Item 1.01 "Entry into Material Definitive Agreement".

Q. What is Staff's summary recommendation for NW Natural's Cost of LT Debt?

A. Staff recommends a Cost of LT Debt of 4.529 percent. This recommendation is supported by comprehensive analysis by Staff and is therefore a value in which the Commission can place high confidence.

CONCLUSION

Q. What is Staff's recommendation regarding Capital Structure?

A. Staff recommends a 50.0 percent Equity and 50.0 percent LT Debt Capital Structure, reflecting best available information at this time.[22]

Q. What is Staff's recommendation regarding ROE?

A. Staff recommend that the Commission adopt a point ROE of 9.40 percent consistent with the findings herein, and with the recommendation of All Parties, despite authorized gas ROEs trending higher last year. The stipulated ROE better matches economic conditions looking forward to 2021.

Q. What is Staff's recommendation regarding LT Debt?

A. Staff recommends a Cost of LT Debt of 4.529 percent, which is beneficial to customers and a reasonable compromise between perspectives on forward markets. Again, All Parties support Staff's work in this regard.

Q. What Rate of Return (ROR) is generated by the above recommendations?

A. Staff's calculations generate a 6.965 percent Overall Rate of Return. Though 65 bps lower than the Company sought as it filed its rate case, all Parties agree that this is a fair and reasonable recommendation to the Commission.

Q. Does that conclude your testimony?

A. Yes.

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22 This capital structure is consistent with Figure 16-1 of Chapter 16, Relationship between Capital Structure and the Cost of Capital, in the earlier mentioned text, "New Regulatory Finance" by Dr. Roger A Morin, Ph.D., when a finance practitioner seeks to balance minimization of the Cost of Capital against credit and liquidity cost and risk.

CASE: UG 388
WITNESS: MATT MULDOON

PUBLIC UTILITY COMMISSION
OF
OREGON

STAFF EXHIBIT 1301

Witness Qualifications Statement

May 13, 2020

WITNESS QUALIFICATION STATEMENT

NAME:	Matthew (Matt) J. Muldoon
EMPLOYER:	PUBLIC UTIILTY COMMISSION OF OREGON
TITLE:	Senior Economist Energy – Rates Finance and Audit Division
ADDRESS:	201 High Street SE, Suite 100 Salem, OR 97301
EDUCATION:	In 1981, I received a Bachelor of Arts Degree in Political Science from the University of Chicago. In 2007, I received a Masters of Business Administration from Portland State University with a certificate in Finance.
EXPERIENCE:	From April of 2008 to the present, I have been employed by the OPUC. My current responsibilities include financial and rate analysis with an emphasis on Cost of Capital. I have worked on Cost of Capital in the following general rate case dockets: AVA UG 186; UG 201, UG 246, UG 284, UG 288, UG 325, and UG 366; NWN UG 221, UG 344, and current UG 388; PAC UE 246, and UE 263; PGE UE 262, UE 283, UE 294, UE 319, and UE 335; and CNG UG 287, UG 305, and UG 347. From 2002 to 2008, I was Executive Director of the Acceleration Transportation Rate Bureau, Inc. where I developed new rate structures for surface transportation and created metrics to insure program success within regulated processes. I was the Vice President of Operations for Willamette Traffic Bureau, Inc. from 1993 to 2002. There I managed tariff rate compilation and analysis. I also developed new information systems and did sensitivity analysis for rate modeling.
OTHER:	I have prepared, and defended formal testimony in contested hearings before the OPUC, ICC, STB, WUTC and ODOT. I have also prepared OPUC Staff testimony in BPA rate cases.

Abbreviations: AVA – Avista Corp., CNG – Cascade Natural Gas Company, IPC – Idaho Power Company, NWN – Northwest Natural Gas Company, PAC – PacifiCorp, PGE – Portland General Electric Company

CASE: UG 388
WITNESS: MOYA ENRIGHT

PUBLIC UTILITY COMMISSION
OF
OREGON

STAFF EXHIBIT 1302

Witness Qualifications Statement

May 13, 2020

WITNESS QUALIFICATIONS STATEMENT

NAME:	Moya Enright
EMPLOYER:	Public Utility Commission of Oregon
TITLE:	Senior Financial Analyst Energy Rates, Finance and Planning Division
ADDRESS:	201 High Street SE. Suite 100 Salem, OR. 97301
EDUCATION:	Energy Risk Professional Certification (part-qualified). Global Association of Risk Professionals. M.Sc. Political Science, 2015. University of Amsterdam. M.Sc. Investment, Treasury and Banking, 2011. Dublin City University. B.A. International Business and Languages, 2008. Dublin City University through a joint curriculum with École Supérieure de Commerce de Montpellier.
EXPERIENCE:	Senior Utility and Energy Analyst at OPUC since January 2019. Energy Trader for Meridian Energy from 2015 to 2019. Meridian Energy is a power generator and retailer operating both in New Zealand and Australia. Trading and Operations Analyst at Tynagh Energy from 2011 to 2013. Tynagh Energy is an independent power producer operating in the Republic of Ireland. Senior Electricity Market Controller at EirGrid from 2008 to 2011. EirGrid is the Irish electricity Transmission System Operator. It operates the Single Electricity Market for the Republic of Ireland and Northern Ireland. Accounts Assistant roles from 2004 to 2008, including Audit Intern at KPMG in Northern Ireland.

CASE: UG 388
WITNESSES: MATT MULDOON &
MOYA ENRIGHT

PUBLIC UTILITY COMMISSION
OF
OREGON

STAFF EXHIBIT 1303
Capital Structure

Exhibits in Furtherance
of Testimony in Support of Partial Stipulation

May 13, 2020

Staff Exhibit 1303 is confidential and

Is subject to

Protective Order No. 19-437

CASE: UG 388
WITNESSES: MATT MULDOON &
MOYA ENRIGHT

PUBLIC UTILITY COMMISSION
OF
OREGON

STAFF EXHIBIT 1304
Value Line (VL) Review
of U.S. Gas and Water Utilities

Exhibits in Furtherance
of Testimony in Support of Partial Stipulation

May 13, 2020

NATURAL GAS UTILITY

Several stocks in *Value Line's* Natural Gas Utility Industry have enjoyed a nice run-up in price since our last review in November. We attribute those movements partly to company-specific developments, like brightened earnings prospects. It appears that occasional volatility across the financial markets (reflecting such factors as tensions in the Middle East and fears about the possible impact of the coronavirus) has also boosted the performance of these equities. That's largely because of their stable, healthy amounts of dividend income, which tend to provide a measure of stability. Consider, too, that there are some standouts for price appreciation potential in the 18-month period. Nonetheless, at the recent elevated quotations, capital gains possibilities out to 2023-2025 are not spectacular.

The Weather

Climate is a factor that affects the demand for natural gas, especially from small commercial businesses and consumers. Not surprisingly, earnings for utilities are vulnerable to seasonal temperature patterns, with consumption normally at its peak during the winter heating months. Unseasonably warm or cold weather can cause substantial volatility in quarterly operating results. But some companies strive to counteract this exposure through temperature-adjusted rate mechanisms, which are available in a number of states. Therefore, investors interested in utilities with more-stable profits from one year to the next are advised to look for companies that are able to hedge this risk.

Natural Gas Pricing

Natural gas quotations are nowhere close to the heights reached in the early 2000s, and the situation might not change very much for some time. Even though this scenario does not augur well for companies that produce this commodity, regulated utility units generally benefit. That's partially because diminished gas prices tend to lead to lower prices for customers, which may bring down bad-debt expense. Moreover, there is an increased possibility that homeowners will convert from alternative fuel sources, such as propane or oil, to natural gas. (At the present time, it's estimated that more than 50% of all households within the United States use natural gas.) It should be mentioned, however, that nonregulated operations (see below) tend to underperform when gas pricing is at subdued levels.

Nonregulated Businesses

Some of the companies in our group have devoted substantial resources to the nonregulated arena, including pipelines and energy marketing & trading, and we see this trend continuing in the future. Indeed, these units offer opportunities for utilities to diversify their revenue streams. What's more, the fact that nonregulated segments can provide potential upside to earnings per share is notable, since the return on equity is established by the regulatory state commissions (generally in the 10%-12% range) on the regulated divisions.

INDUSTRY TIMELINESS: 55 (of 95)

Appealing Payouts

The main attraction of utility equities is their dividend income, which tends to be well covered by profits. (It's important to state that the Financial Strength ratings for more than half of the 10 companies in our category are A, and the lowest is a respectable B+.) At the time of this industry report, the average yield for the group was about 2.7%, versus the *Value Line* median of 2.2%. Outstanding selections include *South Jersey Industries*, *UGI Corp.*, and *Southwest Gas*. When the financial markets face heightened volatility, solid dividend yields act like an anchor, so to speak.

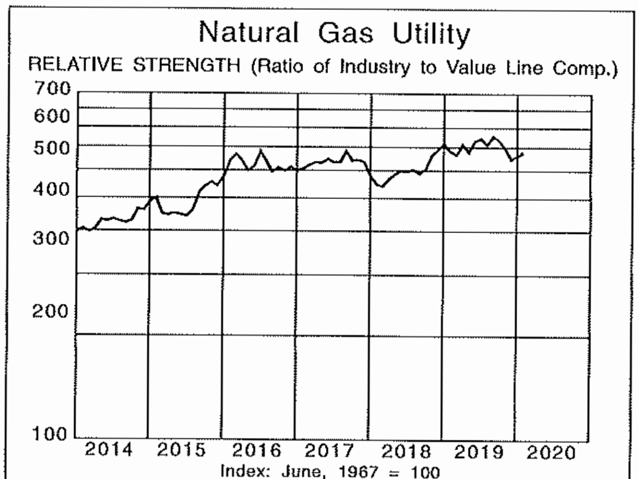
Earnings Prospects Out To Mid-Decade

We are optimistic, in general, about the sector's operating performance over the long term. Natural gas ought to remain an abundant resource in the United States, brought about partially by new technologies, so a shortage does not seem probable anytime soon. Too, there are limited alternatives for the services the companies in this category offer. Furthermore, it's a challenge for new entrants in the market, given such factors as the size of existing competitors and the substantial initial capital outlays that are required. Finally, the country's population ought to remain on a steady, upward course, which augurs well for future demand for utility services.

Conclusion

No stocks here are ranked favorably for Timeliness. That comes as no surprise, though, since historical price movements of this typically defensive sector have tended to be on the steady side. Nevertheless, these stocks ought to draw the attention of income-oriented investors with a conservative tilt, given that those good-yielding issues boast high marks for Price Stability, and the majority are ranked 1 (Highest) or 2 (Above Average) for Safety. And, as mentioned above, there are some good choices for price action in the 18-month period. As always, our subscribers are advised to carefully examine the following reports before committing funds.

Frederick L. Harris, III



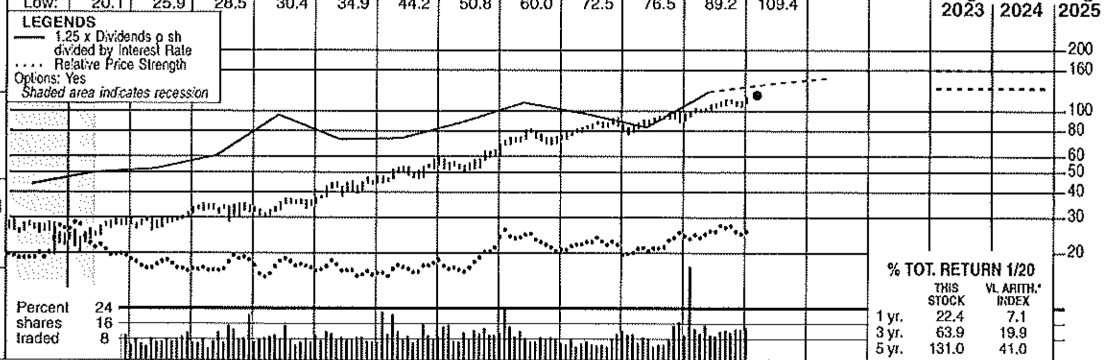
ATMOS ENERGY CORP. NYSE-ATO

RECENT PRICE 120.57 | P/E RATIO 25.9 (Trailing: 27.0 / Median: 18.0) | RELATIVE P/E RATIO 1.44 | DIV'D YLD 2.0% | VALUE LINE

TIMELINESS 3 Lowered 11/30/18
SAFETY 1 Raised 6/6/14
TECHNICAL 4 Lowered 1/31/20
BETA .55 (1.00 = Market)

High:	30.3	32.0	35.6	37.3	47.4	58.2	64.8	82.0	93.6	100.8	115.2	121.1
Low:	20.1	25.9	28.5	30.4	34.9	44.2	50.8	60.0	72.5	76.5	89.2	109.4

LEGENDS
— 1.25 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: Yes
Shaded area indicates recession



Target Price Range 2023 | 2024 | 2025

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$105-$138	$122 (0%)

2023-25 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	160	(+35%)	9%
Low	130	(+10%)	4%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	243	231	262
to Sell	204	206	193
Hld's(000)	96087	99796	99815

Percent shares traded 24 16 8

% TOT. RETURN 1/20

	THIS STOCK	VL ARITH.* INDEX
1 yr.	22.4	7.1
3 yr.	63.9	19.9
5 yr.	131.0	41.0

Atmos Energy's history dates back to 1906 in the Texas Panhandle. Over the years, through various mergers, it became part of Pioneer Corporation, and, in 1981, Pioneer named its gas distribution division Energas. In 1983, Pioneer organized Energas as a separate subsidiary and distributed the outstanding shares of Energas to Pioneer shareholders. Energas changed its name to Atmos in 1988. Atmos acquired Trans Louisiana Gas in 1986, Western Kentucky Gas Utility in 1987, Greeley Gas in 1993, United Cities Gas in 1997, and others.

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	© VALUE LINE PUB. LLC	23-25
53.12	48.15	38.10	42.88	49.22	40.82	32.23	26.01	28.00	24.32	*24.50*	*24.60*	Revenues per sh A	*37.95*
4.64	4.72	4.76	5.14	5.42	5.81	6.19	6.62	7.24	7.57	*8.00*	*8.35*	"Cash Flow" per sh	*9.80*
2.16	2.26	2.10	2.50	2.96	3.09	3.38	3.60	4.00	4.35	*4.65*	*4.90*	Earnings per sh AB	*6.00*
1.34	1.36	1.38	1.40	1.48	1.56	1.68	1.80	1.94	2.10	*2.30*	*2.46*	Div'ds Decl'd per sh C■	*3.00*
6.02	6.90	8.12	9.32	8.32	9.61	10.46	10.72	13.19	14.19	*15.20*	*15.40*	Cap'l Spending per sh	*15.50*
24.16	24.98	26.14	28.47	30.74	31.48	33.32	36.74	42.87	48.18	*52.80*	*55.40*	Book Value per sh	*66.20*
90.16	90.30	90.24	90.64	100.39	101.48	103.93	106.10	111.27	119.34	*125.00*	*130.00*	Common Shs Outst'g D	*145.00*
13.2	14.4	15.9	15.9	16.1	17.5	20.8	22.0	21.7	23.2	*Bold figures are*		Avg Ann'l P/E Ratio	*24.0*
.84	.90	1.01	.89	.85	.88	1.09	1.11	1.17	1.27	*Value Line*		Relative P/E Ratio	*1.35*
4.7%	4.2%	4.1%	3.5%	3.1%	2.9%	2.4%	2.3%	2.2%	2.1%	*estimates*		Avg Ann'l Div'd Yield	*2.1%*
4789.7	4347.6	3438.5	3886.3	4940.9	4142.1	3349.9	2759.7	3115.5	2901.8	*3060*	*3200*	Revenues ($mill) A	*5500*
201.2	199.3	192.2	230.7	289.8	315.1	350.1	382.7	444.3	511.4	*580*	*635*	Net Profit ($mill)	*870*
38.5%	36.4%	33.8%	38.2%	39.2%	38.3%	36.4%	36.6%	27.0%	21.4%	*22.5%*	*22.5%*	Income Tax Rate	*24.0%*
4.2%	4.6%	5.6%	5.9%	5.9%	7.6%	10.5%	13.9%	14.3%	17.6%	*19.0%*	*19.8%*	Net Profit Margin	*15.8%*
45.4%	49.4%	45.3%	48.8%	44.3%	43.5%	38.7%	44.0%	34.3%	38.0%	*40.0%*	*40.0%*	Long-Term Debt Ratio	*40.0%*
54.6%	50.6%	54.7%	51.2%	55.7%	56.5%	61.3%	56.0%	65.7%	62.0%	*60.0%*	*60.0%*	Common Equity Ratio	*60.0%*
3987.9	4461.5	4315.5	5036.1	5542.2	5650.2	5651.8	6965.7	7263.6	9279.7	*11000*	*12000*	Total Capital ($mill)	*16000*
4793.1	5147.9	5475.6	6030.7	6725.9	7430.6	8280.5	9259.2	10371	11788	*13000*	*14200*	Net Plant ($mill)	*18000*
6.9%	6.1%	6.1%	5.9%	6.4%	6.6%	7.2%	6.4%	6.9%	6.1%	*6.5%*	*6.5%*	Return on Total Cap'l	*6.5%*
9.2%	8.8%	8.1%	8.9%	9.4%	9.9%	10.1%	9.8%	9.3%	8.9%	*9.0%*	*9.0%*	Return on Shr. Equity	*9.0%*
9.2%	8.8%	8.1%	8.9%	9.4%	9.9%	10.1%	9.8%	9.3%	8.9%	*9.0%*	*9.0%*	Return on Com Equity	*9.0%*
3.5%	3.3%	2.8%	4.0%	4.7%	4.9%	5.1%	4.9%	4.8%	4.6%	*4.5%*	*4.5%*	Retained to Com Eq	*4.5%*
62%	62%	65%	56%	50%	51%	50%	50%	48%	48%	*50%*	*50%*	All Div'ds to Net Prof	*50%*

CAPITAL STRUCTURE as of 12/31/19
Total Debt $4324.4 mill. Due in 5 Yrs $465.0 mill.
LT Debt $4324.3 mill. LT Interest $255.0 mill.
(LT interest earned: 7.3x; total interest coverage: 7.3x)
Leases, Uncapitalized Annual rentals $21.0 mill.
Pfd Stock None
Pension Assets-9/19 $530.1 mill. Oblig. $577.3 mill.
Common Stock 122,266,316 shs. as of 1/31/20
MARKET CAP: $14.7 billion (Large Cap)

CURRENT POSITION ($MILL.)	2018	2019	12/31/19
Cash Assets	13.8	24.5	189.3
Other	465.1	433.5	622.8
Current Assets	478.9	458.0	812.1
Accts Payable	217.3	265.0	308.1
Debt Due	1150.8	464.9	.1
Other	547.0	479.5	537.0
Current Liab.	1915.1	1209.4	845.2
Fix. Chg. Cov.	926%	990%	905%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '17-'19 to '23-'25
Revenues	-9.0%	-9.5%	*6.5%*
"Cash Flow"	5.5%	7.0%	*5.5%*
Earnings	7.5%	9.5%	*7.0%*
Dividends	4.0%	6.5%	*7.5%*
Book Value	6.5%	8.5%	*7.5%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2017	780.2	988.2	526.5	464.8	2759.7
2018	889.2	1219.4	562.2	444.7	3115.5
2019	877.8	1094.6	485.7	443.7	2901.8
2020	875.6	*1150*	*574.4*	*460*	*3060*
2021	*900*	*1205*	*615*	*480*	*3200*

Fiscal Year Ends	EARNINGS PER SHARE A B E Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2017	1.08	1.52	.67	.34	3.60
2018	1.40	1.57	.64	.41	4.00
2019	1.38	1.82	.68	.49	4.35
2020	1.47	*1.85*	*.77*	*.56*	*4.65*
2021	*1.55*	*1.87*	*.85*	*.63*	*4.90*

Cal-endar	QUARTERLY DIVIDENDS PAID C■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.42	.42	.42	.45	1.71
2017	.45	.45	.45	.485	1.84
2018	.485	.485	.485	.525	1.98
2019	.525	.525	.525	.575	2.15
2020	.575				

BUSINESS: Atmos Energy Corporation is engaged primarily in the distribution and sale of natural gas to over three million customers through six regulated natural gas utility operations: Louisiana Division, West Texas Division, Mid-Tex Division, Mississippi Division, Colorado-Kansas Division, and Kentucky/Mid-States Division. Gas sales breakdown for fiscal 2019: 66%, residential; 27%, commercial; 5%, industrial; and 2% other. The company sold Atmos Energy Marketing, 1/17. Officers and directors own approximately 1.4% of common stock (12/19 Proxy). President and Chief Executive Officer: Kevin Akers. Incorporated: Texas. Address: Three Lincoln Centre, Suite 1800, 5430 LBJ Freeway, Dallas, Texas 75240. Telephone: 972-934-9227. Internet: www.atmosenergy.com.

Atmos Energy began fiscal 2020 in decent shape. (The year ends on September 30th.) Indeed, first-quarter share net of $1.47 was 6.5% higher than the fiscal 2019 figure of $1.38. One contributor was the natural gas distribution unit, which benefited from higher rates, mainly in the Mississippi, Mid-Tex, Louisiana, and West Texas divisions. Customer growth, largely in the Mid-Tex operation, also helped. Elsewhere, the performance of the pipeline and storage division enjoyed an increase in revenue from a Gas Reliability Infrastructure Program filing approved in fiscal 2019. Assuming a continuation of generally favorable trends, full-year profits stand to advance about 7%, to $4.65 a share, relative to the fiscal 2019 total of $4.35. Regarding next year, share net might rise another 5% or so, to $4.90, as operating margins expand further.

Total capital spending from fiscal 2020 through fiscal 2024 is projected to be $10 billion to $11 billion. (Putting that into perspective, this year's target is between $1.85 billion and $1.95 billion.) Similar to prior periods, a substantial portion of the funds are to be used to enhance the safety and reliability of the company's natural gas distribution and transmission systems. Supported its strong finances, we think this goal is quite achievable.

Prospects out to mid-decade are solid, in our view. Atmos ranks as one of the nation's biggest natural gas-only distributors, with over three million customers across several states, including Texas, Louisiana, and Mississippi. Furthermore, we think the pipeline and storage unit has healthy overall growth possibilities, given that it operates in one of the most-active drilling regions in the world. In the company's current configuration, annual bottom-line increases may be between 6% and 8% over the 2023-2025 span.

The equity has traded at historic highs over the past few months. It seems that Atmos' decent start to fiscal 2020 is a factor. Consider, also, the 1 (Highest) Safety rank and top score for Price Stability.

But 3- to 5-year total return potential doesn't impress. This reflects the recent stock-price action. Also, the dividend yield is subpar for a natural gas utility.

Frederick L. Harris, III February 28, 2020

(A) Fiscal year ends Sept. 30th. (B) Diluted shrs. Excl. nonrec. items: '10, 5¢; '11, (1¢); '18, $1.43. Excludes discontinued operations: '11, 10¢; '12, 27¢; '13, 14¢; '17, 13¢. Next egs. rpt. due early May.
(C) Dividends historically paid in early March, June, Sept., and Dec. ■ Div. reinvestment plan. Direct stock purchase plan avail.
(D) In millions.
(E) Qtrs may not add due to change in shrs outstanding.

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

CHESAPEAKE UTIL. NYSE-CPK

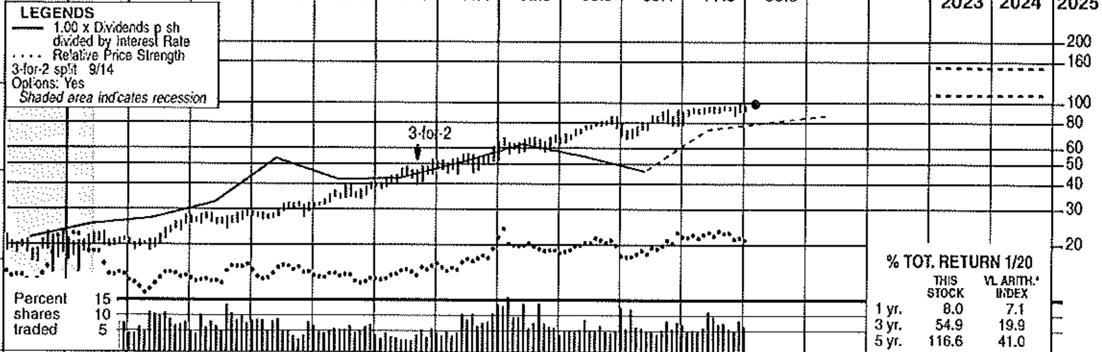
RECENT PRICE 99.51 | P/E RATIO 27.7 (Trailing: 26.9; Median: 17.0) | RELATIVE P/E RATIO 1.54 | DIV'D YLD 1.7% | VALUE LINE

TIMELINESS 3 Lowered 6/28/19
SAFETY 2 New 6/5/15
TECHNICAL 4 Lowered 2/28/20
BETA .60 (1.00 = Market)

High:	23.3	28.1	29.7	32.6	40.8	52.7	61.1	70.0	86.4	93.4	98.6	101.3	
Low:	14.7	18.7	24.0	26.6	30.6	37.5	44.4	52.3	63.0	66.4	77.6	90.8	

Target Price Range 2023 | 2024 | 2025

LEGENDS
— 1.00 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
3-for-2 split 9/14
Options: Yes
Shaded area indicates recession



18-Month Target Price Range
Low-High Midpoint (% to Mid)
$81-$127 $104 (5%)

2023-25 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	150	(+50%)	12%
Low	110	(+10%)	4%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	81	79	84
to Sell	92	86	75
Hld's(000)	10679	10886	11001

% TOT. RETURN 1/20

	THIS STOCK	VL ARITH.* INDEX
1 yr.	8.0	7.1
3 yr.	54.9	19.9
5 yr.	116.6	41.0

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	© VALUE LINE PUB. LLC	23-25
20.70	26.02	23.05	25.41	28.46	19.07	29.93	29.13	27.26	30.73	34.19	30.07	30.60	37.79	43.81	37.25	38.80	40.55	Revenues per sh	60.00
2.26	2.35	2.18	2.52	2.50	2.15	3.50	3.69	3.95	4.35	4.73	5.05	5.16	5.42	6.47	6.65	7.10	7.55	"Cash Flow" per sh	10.00
1.09	1.18	1.15	1.29	1.39	1.43	1.82	1.91	1.99	2.26	2.47	2.68	2.86	2.68	3.45	3.40	3.65	3.85	Earnings per sh A	5.50
.75	.76	.77	.78	.81	.83	.87	.91	.96	1.01	1.07	1.12	1.19	1.26	1.39	1.55	1.69	1.83	Div'ds Decl'd per sh B■	2.30
2.07	3.74	4.87	3.08	3.00	1.89	3.18	3.28	5.00	6.72	6.66	9.47	10.42	10.73	16.47	10.75	11.05	11.45	Cap'l Spending per sh	12.80
9.07	9.60	11.08	11.76	12.02	14.89	15.84	16.78	17.82	19.28	20.59	23.45	27.36	29.75	31.65	35.05	40.55	43.90	Book Value per sh	56.90
8.60	8.82	10.03	10.17	10.24	14.09	14.29	14.35	14.40	14.46	14.59	15.27	16.30	16.34	16.38	16.50	17.00	17.50	Common Shs Outst'g C	20.00
15.0	16.8	17.9	16.7	14.2	14.2	12.2	14.2	14.8	15.6	17.7	19.1	21.8	27.8	22.9	27.1	Bold figures are		Avg Ann'l P/E Ratio	23.5
.79	.89	.97	.89	.85	.95	.78	.89	.94	.88	.93	.96	1.14	1.40	1.24	1.48	Value Line		Relative P/E Ratio	1.30
4.6%	3.8%	3.8%	3.6%	4.1%	4.1%	3.9%	3.4%	3.3%	2.9%	2.4%	2.2%	1.9%	1.7%	1.8%	1.7%	estimates		Avg Ann'l Div'd Yield	1.8%

CAPITAL STRUCTURE as of 9/30/19
Total Debt $676.1 mill. Due in 5 Yrs $440.0 mill.
LT Debt $375.8 mill. LT Interest $15.0 mill.
(LT interest earned: 5.7x; total interest coverage: 5.7x) (41% of Cap'l)
Leases, Uncapitalized Annual rentals $2.4 mill.
Pfd Stock None
Pension Assets-12/18 $52.3 mill. Oblig. $70.1 mill.
Common Stock 16,403,776 shs. as of 10/31/19

MARKET CAP: $1.6 billion (Mid Cap)

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		23-25
427.5	418.0	392.5	444.3	498.8	459.2	498.9	617.6	717.5	615	660	710	Revenues ($mill)	1200
26.1	27.6	28.9	32.8	36.1	40.2	44.7	43.8	56.6	56.0	62.0	67.5	Net Profit ($mill)	110
39.7%	39.4%	40.1%	40.2%	39.9%	39.5%	38.8%	39.5%	27.1%	26.0%	26.5%	26.5%	Income Tax Rate	27.0%
6.1%	6.6%	7.4%	7.4%	7.2%	8.8%	9.0%	7.1%	7.9%	9.1%	9.4%	9.5%	Net Profit Margin	9.2%
28.4%	31.4%	28.4%	29.7%	34.5%	29.4%	23.5%	28.9%	37.9%	41.0%	39.0%	40.0%	Long-Term Debt Ratio	35.0%
71.6%	68.6%	71.6%	70.3%	65.5%	70.6%	76.5%	71.1%	62.1%	59.0%	61.0%	60.0%	Common Equity Ratio	65.0%
315.9	351.1	358.5	396.4	458.8	507.5	583.0	683.7	834.5	980	1130	1280	Total Capital ($mill)	1750
462.8	487.7	541.8	631.2	689.8	855.0	986.7	1126.0	1384.0	1490	1650	1815	Net Plant ($mill)	2475
9.1%	8.9%	8.8%	8.8%	8.5%	8.9%	8.6%	7.3%	7.8%	7.0%	6.5%	6.5%	Return on Total Cap'l	7.5%
11.5%	11.5%	11.2%	11.8%	12.0%	11.2%	10.0%	9.0%	10.9%	9.5%	9.0%	9.0%	Return on Shr. Equity	9.5%
11.5%	11.5%	11.2%	11.8%	12.0%	11.2%	10.0%	9.0%	10.9%	9.5%	9.0%	9.0%	Return on Com Equity	9.5%
6.6%	6.6%	6.4%	7.1%	7.4%	6.8%	6.1%	4.9%	6.7%	5.5%	5.0%	4.5%	Retained to Com Eq	5.5%
42%	42%	43%	40%	38%	40%	39%	45%	39%	46%	46%	47%	All Div'ds to Net Prof	42%

CURRENT POSITION ($MILL.)	2017	2018	9/30/19
Cash Assets	5.6	6.1	4.3
Other	173.0	185.4	110.6
Current Assets	178.6	191.5	114.9
Accts Payable	74.7	129.8	53.2
Debt Due	260.4	306.4	300.3
Other	77.9	92.0	92.7
Current Liab.	413.0	528.2	446.2
Fix. Chg. Cov.	749%	636%	645%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '23-'25
Revenues	4.0%	5.0%	7.0%
"Cash Flow"	9.0%	7.5%	8.5%
Earnings	9.0%	8.0%	9.0%
Dividends	5.0%	6.0%	9.0%
Book Value	10.0%	10.5%	10.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	185.2	125.1	126.9	180.4	617.6
2018	239.4	136.7	140.3	201.1	717.5
2019	227.6	130.9	92.6	163.9	615
2020	237	145	103	175	660
2021	250	150	115	195	710

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	1.17	.37	.42	.72	2.68
2018	1.64	.39	.34	1.08	3.45
2019	1.74	.50	.38	.78	3.40
2020	1.85	.55	.41	.84	3.65
2021	1.90	.60	.46	.89	3.85

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.288	.288	.305	.305	1.19
2017	.305	.305	.325	.325	1.26
2018	.325	.325	.37	.37	1.39
2019	.37	.37	.405	.405	1.55
2020	.405				

BUSINESS: Chesapeake Utilities Corporation consists of two units: Regulated Energy and Unregulated Energy. The Regulated Energy segment (45% of 2018 revenues) distributes natural gas in Delaware, Maryland, and Florida; distributes electricity in Florida; and transmits natural gas on the Delmarva Peninsula and in Florida. The Unregulated Energy operation (55% of 2018 revenues) wholesales and distributes propane; markets natural gas; and provides other unregulated energy services, including midstream services in Ohio. Officers and directors own 4.2% of common stock; T. Rowe Price, 13.7%; BlackRock, 9.2% (4/19 Proxy). CEO: Jeffry M. Householder. Inc.: Delaware. Address: 909 Silver Lake Boulevard, Dover, DE 19904. Tel.: (302) 734-6799. Internet: www.chpk.com.

Chesapeake Utilities Corporation stands to deliver better results in 2020. This ought to be brought about partly by the Regulated Energy segment, aided by such factors as service expansion projects and internal growth within the natural gas distribution business. Another positive is the relatively low effective income tax rate. Thus, we expect the company's bottom line to advance around 7%, to $3.65 a share, relative to last year's $3.40 estimate. (Fourth-quarter numbers were not released when this report went to press.) Looking at 2021, a 5%-or-so increase, to $3.85 a share, appears possible, supported by incremental benefits from prior acquisitions. (Some of the more recent deals are discussed below.) Generally favorable weather conditions would also help Chesapeake.

There has been movement on the acquisition front. The company recently bought, for an undisclosed amount, the propane operating assets of Boulden Brothers Propane, serving around 5,200 residential and commercial customers throughout Delaware, Maryland, and Pennsylvania. Moreover, there are plans to purchase Elkton Gas, a subsidiary of SJI, which delivers natural gas to approximately 7,000 residential and commercial customers within Cecil County, Maryland. Subject to approval by the Maryland Public Service Commission, the transaction is slated for completion in the first half of this year. (Financial terms were not available to the public.) Acquisitions should continue to be a key component in management's business strategy, even though many uncertainties prevent us from incorporating future ones into our figures.

The stock has soared to fresh highs since our last full-page report in November. We think market optimism surrounding Chesapeake's 2020 prospects is one driver behind the price action. Other positives include the below-market Beta coefficient and relatively high Price Stability grade. However, the dividend yield is unspectacular for a natural gas utility. Also, appreciation potential out to 2023-2025 is limited. Capital gains possibilities in the 18-month period are lackluster, too. Meanwhile, the Timeliness rank sits at 3 (Average).

Frederick L. Harris, III February 28, 2020

(A) Diluted shrs. Excludes nonrecurring items: '08, d7¢; '15, 6¢; '17, 87¢. Excludes discontinued operations: '04, d1¢; '19, d8¢. Next earnings report due early May.
(B) Dividends historically paid in early January, April, July, and October. ■ Dividend reinvestment plan. Direct stock purchase plan available.
(C) In millions, adjusted for split.

Company's Financial Strength	A
Stock's Price Stability	80
Price Growth Persistence	90
Earnings Predictability	90

NEW JERSEY RES. NYSE-NJR

RECENT PRICE **43.69** | P/E RATIO **21.3** (Trailing: 24.3; Median: 17.0) | RELATIVE P/E RATIO **1.18** | DIV'D YLD **2.9%** | VALUE LINE

TIMELINESS **3** Lowered 8/17/18
SAFETY **1** Raised 9/15/06
TECHNICAL **5** Lowered 2/28/20
BETA .65 (1.00 = Market)

High:	21.2	22.0	25.2	25.1	23.8	32.1	34.1	38.9	45.4	51.8	51.2	44.7
Low:	15.0	16.7	19.8	19.3	19.5	21.9	26.8	30.5	33.7	35.6	40.3	40.6

18-Month Target Price Range

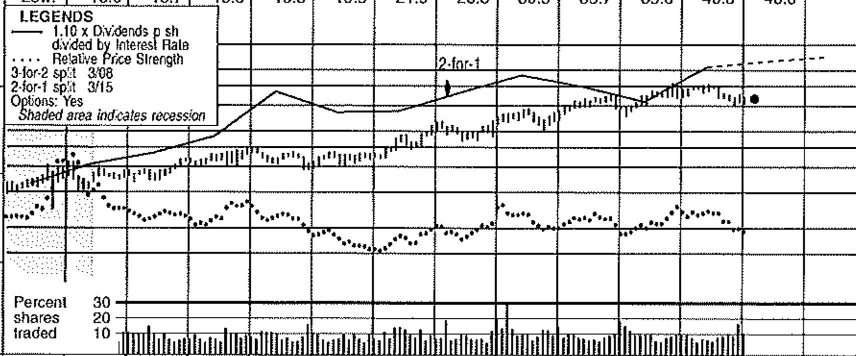
Low-High	Midpoint (% to Mid)
$36-$56	$46 (5%)

2023-25 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(+5%)	4%
Low	35	(-20%)	-2%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	125	127	125
to Sell	117	102	102
Hld's(000)	59010	60781	61471



Target Price Range
2023 | 2024 | 2025
80 60 50 40 30 25 20 15 10 7.5

% TOT. RETURN 1/20

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-12.6	7.1
3 yr.	18.4	19.9
5 yr.	48.4	41.0

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	© VALUE LINE PUB. LLC	23-25
30.44	38.10	39.81	36.31	45.37	31.17	32.05	36.30	27.08	38.38	44.40	32.09	21.90	26.28	33.24	29.01	*26.55*	*28.35*	Revenues per sh A	*30.05*
1.25	1.31	1.37	1.22	1.81	1.58	1.63	1.70	1.86	1.93	2.73	2.52	2.46	2.68	3.72	2.99	*3.05*	*3.30*	"Cash Flow" per sh	*3.55*
.85	.88	.93	.78	1.35	1.20	1.23	1.29	1.36	1.37	2.08	1.78	1.61	1.73	2.72	1.96	*2.05*	*2.25*	Earnings per sh B	*2.40*
.43	.45	.48	.51	.56	.62	.68	.72	.77	.81	.86	.93	.98	1.04	1.11	1.19	*1.27*	*1.34*	Div'ds Decl'd per sh C■	*1.57*
.72	.64	.64	.73	.86	.90	1.05	1.13	1.26	1.33	1.52	3.76	4.15	3.80	4.39	5.83	*4.70*	*4.10*	Cap'l Spending per sh	*4.00*
5.62	5.30	7.50	7.75	8.64	8.29	8.81	9.36	9.80	10.65	11.48	12.99	13.58	14.33	16.18	17.37	*20.65*	*22.00*	Book Value per sh D	*26.15*
83.22	82.64	82.88	83.22	84.12	83.17	82.35	82.89	83.05	83.32	84.20	85.19	85.88	86.32	87.69	89.34	*96.00*	*97.00*	Common Shs Outst'g E	*100.00*
15.3	16.8	16.1	21.6	12.3	14.9	15.0	16.8	16.8	16.0	11.7	16.6	21.3	22.4	15.6	24.3	*Bold figures are*		Avg Ann'l P/E Ratio	*17.0*
.81	.89	.87	1.15	.74	.99	.95	1.05	1.07	.90	.62	.84	1.12	1.13	.84	1.33	*Value Line*		Relative P/E Ratio	*.95*
3.3%	3.1%	3.2%	3.0%	3.3%	3.5%	3.7%	3.3%	3.4%	3.7%	3.5%	3.1%	2.9%	2.7%	2.6%	2.5%	*estimates*		Avg Ann'l Div'd Yield	*3.7%*

CAPITAL STRUCTURE as of 12/31/19
Total Debt $1950.1 mill. **Due in 5 Yrs** $420.5 mill.
LT Debt $1537.6 mill. **LT Interest** $47.1 mill.
Incl. $38.6 mill. capitalized leases.
(LT interest earned: 5.0x; total interest coverage: 5.0x)
Pension Assets-9/19 $372.6 mill. **Oblig.** $620.5 mill.
Pfd Stock None
Common Stock 95,570,817 shs. as of 2/4/20
MARKET CAP: $4.2 billion (Mid Cap)

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		23-25
2639.3	3009.2	2248.9	3198.1	3738.1	2734.0	1880.9	2268.6	2915.1	2592.0	*2550*	*2750*	Revenues ($mill) A	*3005*
101.8	106.5	112.4	113.7	176.9	153.7	138.1	149.4	240.5	175.0	*195*	*220*	Net Profit ($mill)	*240*
41.4%	30.2%	7.1%	25.4%	30.2%	26.3%	15.5%	17.2%	NMF	NMF	*15.0%*	*15.0%*	Income Tax Rate	*15.0%*
3.9%	3.5%	5.0%	3.6%	4.7%	5.6%	7.3%	6.6%	8.2%	6.7%	*7.8%*	*8.0%*	Net Profit Margin	*8.0%*
37.2%	35.5%	39.2%	36.6%	38.2%	43.2%	47.7%	44.6%	45.4%	49.8%	*44.0%*	*44.5%*	Long-Term Debt Ratio	*43.5%*
62.8%	64.5%	60.8%	63.4%	61.8%	56.8%	52.3%	55.4%	54.6%	50.2%	*56.0%*	*55.5%*	Common Equity Ratio	*56.5%*
1154.4	1203.1	1339.0	1400.3	1564.4	1950.6	2230.1	2233.7	2599.6	3088.9	*3535*	*3835*	Total Capital ($mill)	*4615*
1135.7	1295.9	1484.9	1643.1	1884.1	2128.3	2407.7	2609.7	2651.0	3041.2	*3100*	*3165*	Net Plant ($mill)	*3355*
9.7%	9.7%	9.2%	9.0%	12.1%	8.6%	6.9%	7.7%	10.1%	6.4%	*6.5%*	*6.5%*	Return on Total Cap'l	*6.0%*
14.0%	13.7%	13.8%	12.8%	18.3%	13.9%	11.8%	12.1%	16.9%	11.3%	*10.0%*	*10.5%*	Return on Shr. Equity	*9.0%*
14.0%	13.7%	13.8%	12.8%	18.3%	13.9%	11.8%	12.1%	16.9%	11.3%	*10.0%*	*10.5%*	Return on Com Equity	*9.0%*
6.7%	6.2%	6.2%	5.2%	11.0%	7.0%	4.8%	5.0%	10.2%	4.6%	*4.0%*	*4.0%*	Retained to Com Eq	*3.0%*
52%	55%	55%	59%	40%	50%	60%	59%	40%	59%	*62%*	*59%*	All Div'ds to Net Prof	*65%*

CURRENT POSITION ($MILL.)	2018	2019	12/31/19
Cash Assets	1.5	2.7	15.7
Other	768.6	508.9	676.9
Current Assets	770.1	511.6	692.6
Accts Payable	373.5	295.9	303.6
Debt Due	275.5	46.9	412.5
Other	101.9	103.6	89.4
Current Liab.	750.9	446.4	805.5
Fix. Chg. Cov.	545%	545%	550%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '17-'19 to '23-'25
Revenues	-2.5%	-4.0%	*4.0%*
"Cash Flow"	7.5%	7.5%	*3.5%*
Earnings	7.0%	6.0%	*2.5%*
Dividends	7.0%	6.5%	*6.0%*
Book Value	7.0%	8.5%	*6.5%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2017	541.1	733.5	457.5	536.5	2268.6
2018	705.3	1019.0	543.4	647.3	2915.1
2019	811.8	866.3	434.9	479.1	2592.0
2020	615.0	*910*	*485*	*540*	*2550*
2021	*665*	*965*	*535*	*585*	*2750*

Fiscal Year Ends	EARNINGS PER SHARE A B Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2017	.47	1.21	.20	d.14	1.73
2018	1.56	1.62	d.09	d.33	2.74
2019	.61	1.27	d.20	.29	1.96
2020	.44	*1.45*	*d.14*	*.30*	*2.05*
2021	*.50*	*1.50*	*d.10*	*.35*	*2.25*

Cal-endar	QUARTERLY DIVIDENDS PAID C■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.24	.24	.24	.255	.98
2017	.255	.255	.255	.273	1.04
2018	.273	.273	.273	.2925	1.11
2019	.2925	.2925	.2925	.3125	1.19
2020	.3125				

BUSINESS: New Jersey Resources Corp. is a holding company providing retail/wholesale energy svcs. to customers in NJ, and in states from the Gulf Coast to New England, and Canada. New Jersey Natural Gas had 547,600 cust. at 9/30/19. Fiscal 2019 volume: 232 bill. cu. ft. (17% interruptible, 17% res., 9% commercial & elec. utility, 40% capacity release programs). N.J. Natural Energy subsidiary provides unregulated retail/wholesale natural gas and related energy svcs. 2019 dep. rate: 2.6%. Has 1,108 empls. Off./dir. own 1.3% of common; BlackRock, 13.9%; Vanguard, 10.4% (12/19 Proxy). CEO, President & Director: Steven D. Westhoven. Incorporated: New Jersey. Address: 1415 Wyckoff Road, Wall, NJ 07719. Telephone: 732-938-1480. Web: www.njresources.com.

New Jersey Resources posted lower-than-expected fiscal first-quarter results (ended December 31st). To that end, revenues fell 24.2%, to $615 million, due to a roughly 35% downturn in nonutility volumes, partially offset by a 9.8% rise in utility sales. On the profitability front, operating expenses increased 470 basis points as a percentage of the top line. After accounting for a sizable increase in shares outstanding, coupled with a rise in interest costs and a drop in other income, NJR's share net fell almost 26% in the first quarter, to $0.44. This was below our call for earnings of $0.68 a share.

Consequently, we have reduced our outlook for fiscal 2020. The retail/wholesale energy services provider appears poised to log a low single-digit revenue decline this year. However, this downturn is more reflective of the drop in commodity prices as it weighs on the company's nonutility business. And while it does lower overall top-line volumes, the drop in natural gas pricing will also reduce cost of goods sold. Meantime, the New Jersey Natural Gas regulated utility segment continues to grow by adding new customer accounts. That unit added 2,282 meters in the first quarter of the year. It also added just under 10,000 accounts last year. Still, on balance, the lackluster earnings in the first quarter prompted us to shave a dime off our annual bottom-line estimate, to $2.05 a share. This falls within management's reiterated guidance range of $2.05-$2.15.

Meanwhile, we have introduced our 2021 top- and bottom-line estimates at $2.75 billion and $2.25 a share, respectively. This ought to be supported by continued growth at the NJNG utility segment, coupled with an eventual improvement in the global macroeconomic trends that are pressuring commodity prices. The utility segment is anticipated to add 28,000-30,000 new customers between fiscal 2020 and fiscal 2022.

At its recent quotation, shares of New Jersey Resources appear fairly valued. NJR is trading near the top end of our 3- to 5-year Target Price Range, suggesting that it already reflects much of the earnings progress that we envision for that time frame.

Bryan J. Fong *February 28, 2020*

(A) Fiscal year ends Sept. 30th.
(B) Diluted earnings. Qtly. sales and egs. may not sum to total due to rounding and change in shares outstanding. Next earnings report due early May.
(C) Dividends historically paid in early Jan., April, July, and October. ■ Dividend reinvestment plan available.
(D) Includes regulatory assets in 2019: $496.6 million, $5.56/share.
(E) In millions, adjusted for splits.

Company's Financial Strength	A+
Stock's Price Stability	85
Price Growth Persistence	70
Earnings Predictability	45

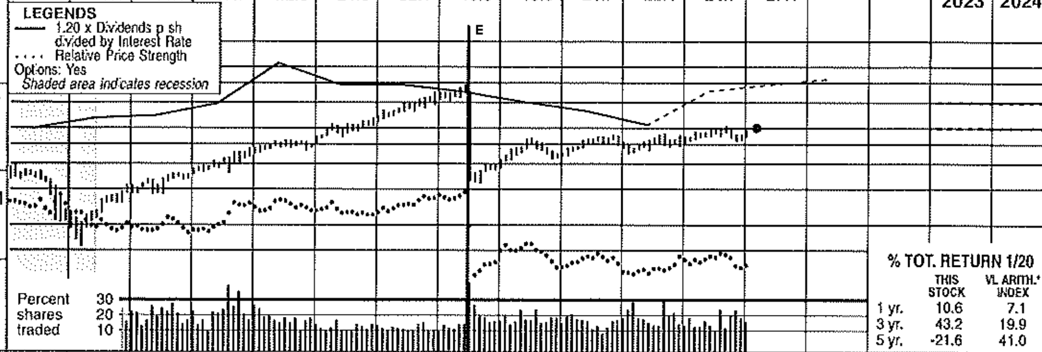
NISOURCE INC. NYSE-NI

RECENT PRICE 30.21 | P/E RATIO 21.1 (Trailing: 24.2 Median: 20.0) | RELATIVE P/E RATIO 1.17 | DIV'D YLD 2.8% | VALUE LINE

TIMELINESS 3 Lowered 4/5/19
SAFETY 2 Raised 11/29/19
TECHNICAL 4 Lowered 1/31/20
BETA .55 (1.00 = Market)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
High:	15.8	18.0	24.0	26.2	33.5	44.9	49.2	26.9	27.8	28.1	30.7	30.5
Low:	7.8	14.1	17.7	22.3	24.8	32.1	16.0	19.0	21.7	22.4	24.7	27.1

Target Price Range 2023 | 2024 | 2025



18-Month Target Price Range
Low-High Midpoint (% to Mid)
$24-$34 $29 (-5%)

2023-25 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	40	(+30%)	10%
Low	30	(Nil)	3%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	236	227	228
to Sell	184	187	192
Hld's(000)	350564	346571	343395

% TOT. RETURN 1/20

	THIS STOCK	VL ARITH.* INDEX
1 yr.	10.6	7.1
3 yr.	43.2	19.9
5 yr.	-21.6	41.0

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	© VALUE LINE PUB. LLC	23-25
24.63	28.97	27.37	28.96	32.36	24.02	22.99	21.33	16.31	18.04	20.47	14.58	13.90	14.46	13.74	14.15	14.85	15.40	Revenues per sh	19.95
3.47	3.14	3.18	3.20	3.32	2.96	3.19	2.98	3.13	3.41	3.60	2.27	2.71	2.07	2.82	2.80	3.00	3.20	"Cash Flow" per sh	4.15
1.62	1.08	1.14	1.14	1.34	.84	1.06	1.05	1.37	1.57	1.67	.63	1.00	.39	1.30	1.25	1.40	1.55	Earnings per sh A	2.25
.92	.92	.92	.92	.92	.92	.92	.92	.94	.98	1.02	.83	.64	.70	.78	.80	.86	.92	Div'd Decl'd per sh B ■	1.16
1.91	2.17	2.33	2.88	3.54	2.81	2.88	3.99	4.83	5.99	6.42	4.26	4.57	5.03	4.88	4.60	4.60	4.60	Cap'l Spending per sh	4.85
17.69	18.09	18.32	18.52	17.24	17.54	17.63	17.71	17.90	18.77	19.54	12.04	12.60	12.82	13.08	13.65	13.90	14.50	Book Value per sh C	15.35
270.63	272.62	273.65	274.18	274.26	276.79	279.30	282.18	310.28	313.68	316.04	319.11	323.16	337.02	372.36	374.00	370.00	370.00	Common Shs Outst'g D	350.00
13.0	21.4	19.2	18.8	12.1	14.3	15.3	19.4	17.9	18.9	22.7	37.3	23.2	NMF	19.3	22.3	Bold figures are		Avg Ann'l P/E Ratio	16.0
.69	1.14	1.04	1.00	.73	.95	.97	1.22	1.14	1.06	1.19	1.88	1.22	NMF	1.04	1.25	Value Line		Relative P/E Ratio	.90
4.4%	4.0%	4.2%	4.3%	5.7%	7.6%	5.7%	4.5%	3.8%	3.3%	2.7%	3.5%	2.8%	2.8%	3.1%	2.9%	estimates		Avg Ann'l Div'd Yield	4.2%

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		23-25
CAPITAL STRUCTURE as of 9/30/19	6422.0	6019.1	5061.2	5657.3	6470.6	4651.8	4492.5	4874.6	5114.5	5300	5500	5700	Revenues ($mill)	6985
Total Debt $9479.8 mill. **Due in 5 Yrs** $2100 mill.	294.6	303.8	410.6	490.9	530.7	198.6	328.1	128.6	463.3	465	520	575	Net Profit ($mill)	785
LT Debt $7853.8 mill. **LT Interest** $370 mill. (Interest cov. earned: 2.2x) (57% of Cap'l)	32.4%	35.0%	34.4%	34.8%	36.9%	41.6%	35.7%	71.0%	19.7%	21.0%	21.0%	21.0%	Income Tax Rate	21.0%
	--	--	--	--	--	--	--	--	2.9%	2.0%	2.0%	2.0%	AFUDC % to Net Profit	2.0%
Leases, Uncapitalized Annual rentals $11.1 mill.	54.7%	55.6%	55.1%	56.3%	56.9%	60.7%	59.8%	63.5%	55.3%	55.0%	54.0%	55.0%	Long-Term Debt Ratio	55.0%
Pension Assets-12/18 $2.1 bill. **Oblig.** $2.0 bill.	45.3%	44.4%	44.9%	43.7%	43.1%	39.3%	40.2%	36.5%	37.9%	45.0%	46.0%	45.0%	Common Equity Ratio	45.0%
Pfd Stock $880 mill. **Pfd Div'd** $28.5 mill.	10859	11264	12373	13480	14331	9792.0	10129	11832	12856	14180	14460	14715	Total Capital ($mill)	15040
	11097	11800	12916	14365	16017	12112	13068	14360	15543	16000	16500	16750	Net Plant ($mill)	17250
	4.5%	4.4%	5.0%	5.2%	5.3%	4.0%	5.0%	2.6%	5.0%	3.5%	3.5%	4.0%	Return on Total Cap'l	5.0%
Common Stock 373,542,659 shs.	6.0%	6.1%	7.4%	8.3%	8.6%	5.2%	8.1%	3.0%	8.1%	8.0%	8.5%	9.0%	Return on Shr. Equity	12.5%
as of 10/22/19	6.0%	6.1%	7.4%	8.3%	8.6%	5.2%	8.1%	3.0%	9.3%	8.0%	8.5%	9.0%	Return on Com Equity	12.5%
MARKET CAP: $11.3 billion (Large Cap)	.8%	.9%	2.5%	3.1%	3.4%	NMF	3.0%	NMF	3.7%	2.5%	3.5%	3.5%	Retained to Com Eq	5.5%
	87%	85%	67%	62%	61%	NMF	63%	NMF	61%	70%	64%	64%	All Div'ds to Net Prof	55%

CURRENT POSITION ($MILL.)	2017	2018	9/30/19
Cash Assets	29.0	112.8	28.0
Other	1734.3	1942.6	1350.3
Current Assets	1763.3	2055.4	1378.3
Accts Payable	625.6	883.8	494.9
Debt Due	1490.0	2027.2	1626.0
Other	1062.8	1125.8	1218.8
Current Liab.	3178.4	4036.8	3339.7
Fix. Chg. Cov.	259%	246%	255%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '23-'25
Revenues	-7.0%	-5.5%	6.0%
"Cash Flow"	-2.5%	-4.5%	8.5%
Earnings	-3.0%	-7.5%	2.5%
Dividends	-2.5%	-5.5%	7.5%
Book Value	-3.5%	-6.5%	4.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	1598.6	990.7	917.0	1368.3	4874.6
2018	1750.8	1007.0	895.0	1461.7	5114.5
2019	1869.8	1010.4	931.5	1488.3	5300
2020	1900	1100	1000	1500	5500
2021	1950	1150	1050	1550	5700

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.65	d.14	.04	d.16	.39
2018	.77	.07	.10	.38	1.30
2019	.82	.05	--	.38	1.25
2020	.85	.10	.10	.35	1.40
2021	.89	.13	.14	.39	1.55

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.155	.155	.165	.165	.64
2017	.175	.175	.175	.175	.70
2018	.195	.195	.195	.195	.78
2019	.200	.200	.200	.200	.80
2020	.21				

BUSINESS: NiSource Inc. is a holding company for Northern Indiana Public Service Company (NIPSCO), which supplies electricity and gas to the northern third of Indiana. Customers: 472,000 electric in Indiana, 3.5 million gas in Indiana, Ohio, Pennsylvania, Kentucky, Virginia, Maryland, Massachusetts through its Columbia subsidiaries. Revenue breakdown, 2018: electrical, 33%; gas, 67%; other, less than 1%. Generating sources, 2018: coal, 69.4%; purchased & other, 30.6%. 2018 reported depreciation rates: 2.9% electric, 2.2% gas. Has 8,087 employees. Chairman: Richard L. Thompson. President & Chief Executive Officer: Joseph Hamrock. Incorporated: Indiana. Address: 801 East 86th Ave., Merrillville, Indiana 46410. Tel.: 877-647-5990. Internet: www.nisource.com.

Since our November review, shares of NiSource have risen nicely. Over that time frame, the equity's price advanced more than 16%. We think this recovery reflected investors taking advantage of the near-term weakness in the stock's price.

That said, the public utilities holding company will probably register mixed financial results for 2019. *Note: NiSource was expected to release its fourth-quarter and year-end financials shortly after this report went to press.* On the plus side, solid contributions from the Gas Distribution, Corporate, and Electric operations likely equated to a mid-single-digit revenue gain last year. However, cost overruns, margin compression, and stock issuances probably resulted in a roughly 4% downturn in share net, to $1.25.

We continue to look for earnings to rebound this year. NiSource appears poised to post a roughly 4% rise in revenues in 2020, to $5.5 billion. The primary driver here should be a large chunk of capital expenditures slated to come on line. The company has multiple wind projects and joint ventures in the works in Indiana. Those growth initiatives represent about $1.75 billion in investments. At the same time, once approved, the Maryland base-rate case should add $3.7 million to the top line. Another base-rate case has been filed for NIPSCO electricity, and should help that unit generate about 10% on recent capital improvement projects. These factors may well drive earnings 12% higher, to $1.40 a share. Finally, we have introduced our 2021 top- and bottom-line estimates at $5.7 billion and $1.55 a share, respectively.

The balance sheet is in decent shape. At the end of the third quarter, the last period for which financial information was available, NI's cash reserves sat at $28 million and the long-term debt load represented 57% of total capital.

On balance, these shares do not stand out at this juncture. The recent uptick in NI's quotation places it just inside our Target Price Range, leaving the stock with below-average capital appreciation potential for the pull to 2023-2025. Meanwhile, our Timeliness Ranking System suggests this equity will just mirror the broader market averages in the coming year.

Bryan J. Fong *February 28, 2020*

(A) Dil. EPS. Excl. nonrec. gains (losses): '05, (4¢); gains (losses) on disc. ops.: '05, 10¢; '06, (11¢); '07, 3¢; '08, ($1.14); '15, (30¢); '18, ($1.48). Next egs. report due late May. Qtl'y egs. may not sum to total due to rounding.
(B) Div'ds historically paid in mid-Feb., May, Aug., Nov. ■ Div'd reinv. avail.
(C) Incl. intang in '18: $1911.4 million, $5.13/sh.
(D) In mill.
(E) Spun off Columbia Pipeline Group (7/15)

Company's Financial Strength	B+
Stock's Price Stability	95
Price Growth Persistence	25
Earnings Predictability	35

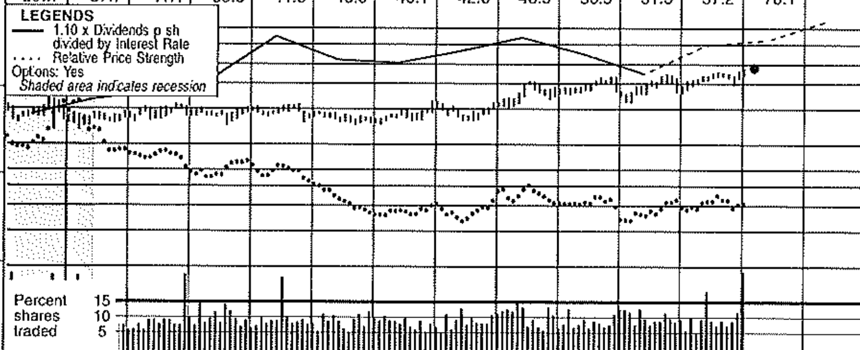
N.W. NATURAL NYSE-NWN

RECENT PRICE	P/E RATIO	RELATIVE P/E RATIO	DIV'D YLD
76.90	33.6 (Trailing: 34.5; Median: 21.0)	1.87	2.5%

VALUE LINE

TIMELINESS 3 Raised 11/8/18
SAFETY 1 Raised 3/18/05
TECHNICAL 4 Lowered 2/28/20
BETA .55 (1.00 = Market)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
High:	46.5	50.9	49.0	50.8	46.6	52.6	52.3	66.2	69.5	71.8	74.1	77.3
Low:	37.7	41.1	39.6	41.0	40.0	40.1	42.0	48.9	56.5	51.5	57.2	70.1



Target Price Range
2023 | 2024 | 2025

18-Month Target Price Range
Low-High: $64-$90
Midpoint (% to Mid): $77 (0%)

2023-25 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	85	(+10%)	5%
Low	70	(-10%)	1%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	112	124	107
to Sell	78	70	90
Hld's(000)	19999	21542	21608

% TOT. RETURN 1/20

	THIS STOCK	VL ARITH.* INDEX
1 yr.	19.7	7.1
3 yr.	35.1	19.9
5 yr.	71.3	41.0

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	© VALUE LINE PUB. LLC	23-25
25.69	33.01	37.20	39.13	39.16	38.17	30.56	31.72	27.14	28.02	27.64	26.39	23.61	26.52	24.45	24.25	25.15	26.45	Revenues per sh	29.40
3.92	4.34	4.76	5.41	5.31	5.20	5.18	5.00	4.94	5.04	5.05	4.91	4.93	1.04	5.28	4.50	4.90	5.35	"Cash Flow" per sh	6.45
1.86	2.11	2.35	2.76	2.57	2.83	2.73	2.39	2.22	2.24	2.16	1.96	2.12	d1.94	2.33	2.10	2.40	2.70	Earnings per sh A	3.50
1.30	1.32	1.39	1.44	1.52	1.60	1.68	1.75	1.79	1.83	1.85	1.86	1.87	1.88	1.89	1.90	1.91	1.92	Div'ds Decl'd per sh B ■	1.97
5.52	3.48	3.56	4.48	3.92	5.09	9.35	3.76	4.91	5.13	4.40	4.37	4.87	7.43	7.43	6.50	6.50	6.65	Cap'l Spending per sh	6.25
20.64	21.28	22.01	22.52	23.71	24.88	26.08	26.70	27.23	27.77	28.12	28.47	29.71	25.85	26.41	25.80	26.60	27.75	Book Value per sh D	29.85
27.55	27.58	27.24	26.41	26.50	26.53	26.58	26.76	26.92	27.08	27.28	27.43	28.63	28.74	28.88	30.50	31.00	31.00	Common Shs Outst'g C	32.00
16.7	17.0	15.9	16.7	18.1	15.2	17.0	19.0	21.1	19.4	20.7	23.7	26.9	--	26.6	32.2	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	22.0
.88	.91	.86	.89	1.09	1.01	1.08	1.19	1.34	1.09	1.09	1.19	1.41	--	1.44	1.75			Relative P/E Ratio	1.20
4.2%	3.7%	3.7%	3.1%	3.3%	3.7%	3.6%	3.9%	3.8%	4.2%	4.1%	4.0%	3.3%	3.0%	3.0%	3.0%			Avg Ann'l Div'd Yield	2.9%

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		23-25
812.1	848.8	730.6	758.5	754.0	723.8	676.0	762.2	706.1	740	780	820	Revenues ($mill)	940
72.7	63.9	59.9	60.5	58.7	53.7	58.9	d55.6	67.3	65.0	75.0	85.0	Net Profit ($mill)	95.0
40.5%	40.4%	42.4%	40.8%	41.5%	40.0%	40.9%	--	26.4%	21.0%	21.0%	21.0%	Income Tax Rate	21.0%
8.9%	7.5%	8.2%	8.0%	7.8%	7.4%	8.7%	NMF	9.5%	8.7%	9.6%	10.2%	Net Profit Margin	11.9%
46.1%	47.3%	48.5%	47.6%	44.8%	42.5%	44.4%	47.9%	48.1%	48.0%	48.0%	47.5%	Long-Term Debt Ratio	47.5%
53.9%	52.7%	51.5%	52.4%	55.2%	57.5%	55.6%	52.1%	51.9%	52.0%	52.0%	52.5%	Common Equity Ratio	52.5%
1284.8	1356.2	1424.7	1433.6	1389.0	1357.7	1529.8	1426.0	1468.9	1520	1580	1645	Total Capital ($mill)	1825
1854.2	1893.9	1973.6	2062.9	2121.6	2182.7	2260.9	2255.0	2421.4	2520	2620	2725	Net Plant ($mill)	3065
7.0%	6.2%	5.7%	5.8%	5.8%	5.5%	5.1%	NMF	5.8%	5.5%	6.0%	6.0%	Return on Total Cap'l	7.5%
10.5%	8.9%	8.2%	8.1%	7.6%	6.9%	6.9%	NMF	8.8%	8.0%	9.0%	9.5%	Return on Shr. Equity	11.5%
10.5%	8.9%	8.2%	8.1%	7.6%	6.9%	6.9%	NMF	8.8%	8.0%	9.0%	9.5%	Return on Com Equity	11.5%
4.0%	2.4%	1.6%	1.5%	1.1%	.6%	.9%	NMF	2.1%	1.0%	2.0%	2.5%	Retained to Com Eq	5.0%
61%	73%	80%	81%	85%	92%	87%	NMF	76%	90%	79%	72%	All Div'ds to Net Prof	56%

CAPITAL STRUCTURE as of 9/30/19
Total Debt $966.3 mill. Due in 5 Yrs $360.0 mill.
LT Debt $806.0 mill. LT Interest $40.0 mill.

(Total interest coverage: 3.5x)

Pension Assets-12/18 $257.8 mill.
Oblig. $455.6 mill.

Pfd Stock None

Common Stock 30,435,575 shares
as of 10/25/19

MARKET CAP $2.3 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2017	2018	9/30/19
Cash Assets	3.5	12.6	10.5
Other	266.4	283.3	192.2
Current Assets	269.9	295.9	202.7
Accts Payable	112.3	115.9	76.2
Debt Due	150.9	247.6	160.3
Other	118.7	145.6	121.9
Current Liab.	381.9	509.1	358.4
Fix. Chg. Cov.	362%	357%	346%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '23-'25
Revenues	-4.5%	-3.0%	2.5%
"Cash Flow"	-3.0%	-5.5%	8.0%
Earnings	-10.5%	-18.0%	22.5%
Dividends	2.5%	1.0%	.5%
Book Value	2.0%	--	1.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	297.3	136.3	88.2	240.4	762.2
2018	264.7	124.6	91.2	226.7	706.1
2019	285.3	123.4	90.3	241.0	740
2020	295	135	100	250	780
2021	305	145	110	260	820

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	1.40	.10	d.30	d3.14	d1.94
2018	1.46	d.01	d.39	1.27	2.33
2019	1.50	.07	d.61	1.14	2.10
2020	1.50	.05	d.40	1.25	2.40
2021	1.60	.10	d.35	1.35	2.70

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.4675	.4675	.4675	.470	1.87
2017	.470	.470	.470	.4725	1.88
2018	.4725	.4725	.4725	.475	1.89
2019	.475	.475	.475	.4775	1.90
2020	.4775				

BUSINESS: Northwest Natural Holding Co. distributes natural gas to 1000 communities, 750,000 customers, in Oregon (89% of customers) and in southwest Washington state. Principal cities served: Portland and Eugene, OR; Vancouver, WA. Service area population: 3.7 mill. (77% in OR). Company buys gas supply from Canadian and U.S. producers; has transportation rights on Northwest Pipeline system. Owns local underground storage. Rev. breakdown: residential, 37%; commercial, 22%; industrial, gas transportation, 41%. Employs 1,167. BlackRock Inc. owns 15.0% of shares; officers and directors, 1.1% (4/19 proxy). CEO: David H. Anderson. Inc.: Oregon. Address: 220 NW 2nd Ave., Portland, OR 97209. Tel.: 503-226-4211. Internet: www.nwnatural.com.

Northwest Natural Holding likely recorded mixed fourth-quarter results. Revenues probably rose to $241.0 million, as cooler weather, along with a higher user base, helped out. However, costs likely remained elevated as the company worked to integrate its recent purchases of water utilities. Higher natural gas usage, both in residential and industrial settings, probably helped improve gross profits, and the Mist storage facility likely added to the sum. Still, we think that the cost structure was higher, limiting bottom-line gains. All told, we believe share earnings reached $1.14 during the quarter.

The company extended the sale date on its Gil Ranch storage facility. It had already agreed to divest the property, as Northwest has worked to improve its asset mix, which will likely be completed by the end of the first quarter and should result in a gain.

The company ought to benefit from a few positive developments. The Portland area will continue to grow in population, while natural gas will be used more for water heating and other uses. Additionally, the company filed a new rate case in Oregon. If approved, the company would achieve $71.4 million in additional revenues to offset the cost of strengthening its natural gas system and improving the system through upgrades. Meantime, the company will likely benefit from a full year of ownership of several water facilities bought over the past year. These factors ought to allow for a sizable increase. Overall, we think that profits will advance to $2.40 per share in 2020, $2.70 per share in 2021, and $3.50 per share by the 2023-2025 period.

Shares of Northwest Natural Holding are neutrally ranked for Timeliness. The stock price has risen considerably over the past few months, leaving little upside potential at the recent quotation. Too, we expect earnings to expand at a steady rate over the coming years, and the price-to-earnings ratio is well above the historical norms. The dividend yield also does not compare favorably to others in the industry. All told, we think that most interested accounts would be best served waiting for a dip in price before making new equity commitments.

John E. Seibert III *February 28, 2020*

(A) Diluted earnings per share. Excludes nonrecurring items: '06, ($0.06); '08, ($0.03); '09, 6¢; May not sum due to rounding. Next earnings report due in early May.
(B) Dividends historically paid in mid-February, May, August, and November.
■ Dividend reinvestment plan available.
(C) In millions.
(D) Includes intangibles. In 2018: $371.8 million, $12.87/share.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	30
Earnings Predictability	5

ONE GAS, INC. NYSE-OGS

RECENT PRICE 96.69 | P/E RATIO 26.4 (Trailing: 28.5 Median: NMF) | RELATIVE P/E RATIO 1.47 | DIV'D YLD 2.3% | VALUE LINE

TIMELINESS 3 Lowered 2/28/20
SAFETY 2 New 6/2/17
TECHNICAL 3 Lowered 2/7/20
BETA .60 (1.00 = Market)

	2014	2015	2016	2017	2018	2019	2020
High:	44.3	51.8	67.4	79.5	87.8	96.7	97.0
Low:	31.9	38.9	48.0	61.4	62.2	75.8	90.1

Target Price Range 2023 | 2024 | 2025

18-Month Target Price Range

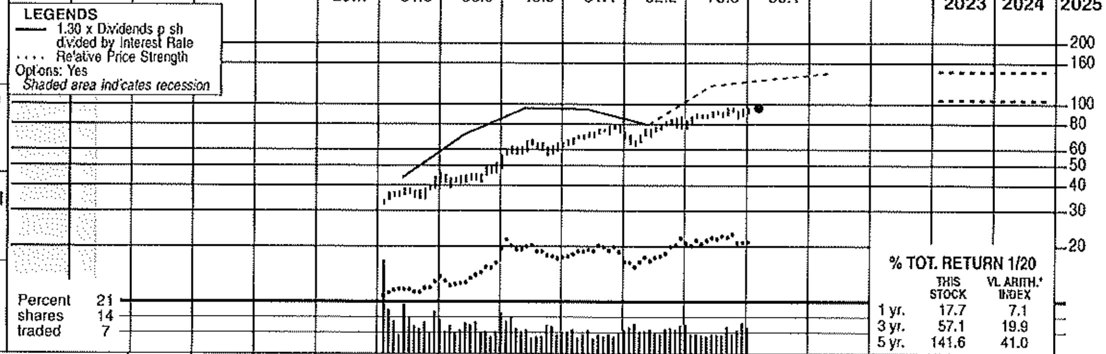
Low-High	Midpoint (% to Mid)
$85-$126	$106 (10%)

2023-25 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	145	(+50%)	12%
Low	105	(+10%)	5%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	152	135	133
to Sell	124	145	132
Hld's(000)	40068	40275	40475



% TOT. RETURN 1/20

	THIS STOCK	VL ARITH.* INDEX
1 yr.	17.7	7.1
3 yr.	57.1	19.9
5 yr.	141.6	41.0

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

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	© VALUE LINE PUB. LLC	23-25
--	--	--	--	34.92	29.62	27.30	29.43	31.08	31.20	32.50	33.70	Revenues per sh	40.00
--	--	--	--	4.52	4.82	5.43	5.96	6.32	6.95	7.40	7.85	"Cash Flow" per sh	9.30
--	--	--	--	2.07	2.24	2.65	3.02	3.25	3.51	3.65	3.85	Earnings per sh A	4.75
--	--	--	--	.84	1.20	1.40	1.68	1.84	2.00	2.16	2.32	Div'ds Decl'd per sh B■	2.80
--	--	--	--	5.70	5.63	5.91	6.81	7.50	7.85	8.40	8.60	Cap'l Spending per sh	9.35
--	--	--	--	34.45	35.24	36.12	37.47	38.86	39.95	41.60	43.35	Book Value per sh	49.60
--	--	--	--	52.08	52.26	52.28	52.31	52.57	53.00	53.50	54.00	Common Shs Outst'g C	55.00
--	--	--	--	17.8	19.8	22.7	23.5	23.1	25.3	Bold figures are		Avg Ann'l P/E Ratio	26.5
--	--	--	--	.94	1.00	1.19	1.18	1.25	1.38	Value Line		Relative P/E Ratio	1.45
--	--	--	--	2.3%	2.7%	2.3%	2.4%	2.5%	2.3%	estimates		Avg Ann'l Div'd Yield	2.2%
--	--	--	--	1818.9	1547.7	1427.2	1539.6	1633.7	1652.7	1740	1820	Revenues ($mill)	2200
--	--	--	--	109.8	119.0	140.1	159.9	172.2	186.7	195	210	Net Profit ($mill)	260
--	--	--	--	38.4%	38.0%	37.8%	36.4%	23.7%	18.7%	19.0%	19.5%	Income Tax Rate	22.0%
--	--	--	--	6.0%	7.7%	9.8%	10.4%	10.5%	11.3%	11.2%	11.5%	Net Profit Margin	11.8%
--	--	--	--	40.1%	39.5%	38.7%	37.8%	38.6%	38.0%	38.0%	38.0%	Long-Term Debt Ratio	38.0%
--	--	--	--	59.9%	60.5%	61.3%	62.2%	61.4%	62.0%	62.0%	62.0%	Common Equity Ratio	62.0%
--	--	--	--	2995.3	3042.9	3080.7	3153.5	3328.1	3415	3590	3775	Total Capital ($mill)	4400
--	--	--	--	3293.7	3511.9	3731.6	4007.6	4283.7	4565	4790	5020	Net Plant ($mill)	5700
--	--	--	--	4.4%	4.7%	5.2%	5.8%	5.9%	6.5%	6.5%	6.5%	Return on Total Cap'l	4.0%
--	--	--	--	6.1%	6.5%	7.4%	8.2%	8.4%	9.0%	9.0%	9.0%	Return on Shr. Equity	9.5%
--	--	--	--	6.1%	6.5%	7.4%	8.2%	8.4%	9.0%	9.0%	9.0%	Return on Com Equity	9.5%
--	--	--	--	3.7%	3.1%	3.5%	3.7%	3.7%	4.0%	3.5%	3.5%	Retained to Com Eq	4.0%
--	--	--	--	40%	53%	52%	55%	56%	57%	59%	60%	All Div'ds to Net Prof	59%

CAPITAL STRUCTURE as of 9/30/19
Total Debt $1680.9 mill. Due in 5 Yrs $300.0 mill.
LT Debt $1285.9 mill. LT Interest $75.0 mill.
(LT interest earned: 5.4x; total interest coverage: 5.4x)
Leases, Uncapitalized Annual rentals $6.3 mill.
Pfd Stock None
Pension Assets-12/18 $814.1 mill. Oblig. $950.5 mill.
Common Stock 52,737,473 shs. as of 10/21/19
MARKET CAP: $5.1 billion (Large Cap)

CURRENT POSITION ($MILL.)	2017	2018	9/30/19
Cash Assets	14.4	21.3	12.6
Other	574.6	522.0	377.1
Current Assets	589.0	543.3	389.7
Accts Payable	143.7	174.5	62.6
Debt Due	357.2	299.5	395.0
Other	172.4	224.9	220.2
Current Liab.	673.3	698.9	677.8
Fix. Chg. Cov.	774%	677%	705%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '23-'25
Revenues	--	--	4.5%
"Cash Flow"	--	--	6.5%
Earnings	--	--	7.0%
Dividends	--	--	8.0%
Book Value	--	--	4.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	550.4	279.7	247.1	462.4	1539.6
2018	638.5	292.5	238.3	464.4	1633.7
2019	661.0	290.6	248.6	452.5	1652.7
2020	700	320	255	465	1740
2021	730	350	265	475	1820

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	1.34	.39	.36	.93	3.02
2018	1.72	.39	.31	.83	3.25
2019	1.76	.46	.33	.96	3.51
2020	1.82	.51	.37	.95	3.65
2021	1.87	.56	.43	.99	3.85

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.35	.35	.35	.35	1.40
2017	.42	.42	.42	.42	1.68
2018	.46	.46	.46	.46	1.84
2019	.50	.50	.50	.50	2.00
2020	.54				

BUSINESS: ONE Gas, Inc. provides natural gas distribution services to over two million customers. It has three divisions: Oklahoma Natural Gas, Kansas Gas Service, and Texas Gas Service. The company purchased 180 Bcf of natural gas supply in 2018, compared to 137 Bcf in 2017. Total volumes delivered by customer (fiscal 2018): transportation, 56%; residential, 33%; commercial & industrial, 10%; wholesale & public authority, 1%. BlackRock owns approximately 11.9% of common stock; The Vanguard Group, 9.9%; T. Rowe Price Associates, 8.5%; officers and directors, less than 1% (4/19 Proxy). CEO: Pierce H. Norton II. Incorporated: Oklahoma. Address: 15 East Fifth Street, Tulsa, Oklahoma 74103. Telephone: 918-947-7000. Internet: www.onegas.com.

We anticipate a rise in earnings for ONE Gas, Inc. this year. That ought to be brought about partly by the benefit of new rates. Another positive is a subdued effective income tax rate. Weather-normalization mechanisms should assist, too. Depreciation & amortization expense stands to increase some, but this ought to reflect necessary capital investments. At this juncture, the bottom line might well advance around 4%, to $3.65 a share, compared to our 2019 figure of $3.51. If operating margins widen further, we look for next year's share net to grow an additional 6% or so, to $3.85.

Capital spending (including asset removal costs) in 2020 is expected to be approximately $475 million. This would be modestly above the previous year's level of $465 million. Roughly 70% of the expenditures is being deployed to system integrity and pipeline replacement projects. It seems that corporate finances are quite adequate to make these initiatives possible. Notably, management looks for that figure to come in between $475 million and $525 million annually over the 2020-2024 horizon, with about the same percentage of funds allocated to where they are currently.

The quarterly common stock dividend was recently hiked 8%, to $0.54 a share. That was made possible, of course, by ONE Gas' solid capital position. Furthermore, our 3- to 5-year projections show that additional steady increases in the distribution will occur. The payout ratio during that period ought to be in the neighborhood of 60%, which is reasonable. Nonetheless, the dividend yield is not spectacular when measured against those of other companies within our Natural Gas Utility universe.

The stock has been riding high these days. We think that price move is attributable, to a certain extent, to investor expectations of higher profits for ONE Gas this year. Other mentionable characteristics include the 2 (Above Average) Safety rank, good Price Stability score, and worthwhile appreciation possibilities in the 18-month period. But capital gains potential over 2023-2025 is nothing to write home about. Meanwhile, the Timeliness rank sits at 3 (Average).

Frederick L. Harris, III February 28, 2020

(A) Diluted EPS. Excludes nonrecurring gain: 2017, $0.06. Next earnings report due early May. Quarterly EPS for 2018 don't add up due to rounding.
(B) Dividends historically paid in early March, June, Sept., and Dec. ■ Dividend reinvestment plan. Direct stock purchase plan.
(C) In millions.

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

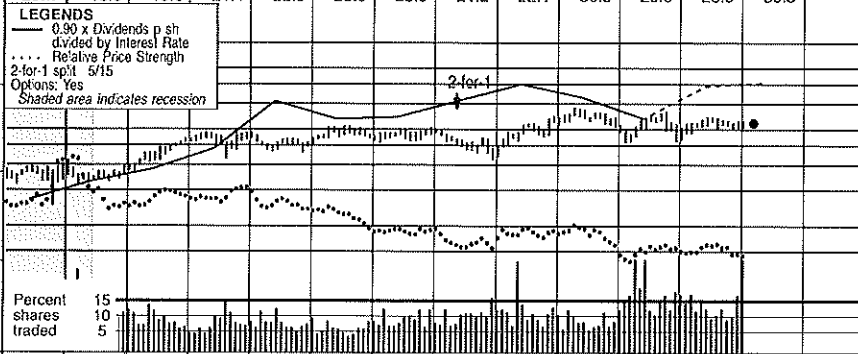
SOUTH JERSEY INDS. NYSE-SJI

RECENT PRICE 32.30 | P/E RATIO 21.0 (Trailing: 30.8; Median: 18.0) | RELATIVE P/E RATIO 1.17 | DIV'D YLD 3.7% | VALUE LINE

TIMELINESS 3 Lowered 7/20/18
SAFETY 2 Lowered 1/4/91
TECHNICAL 4 Lowered 12/27/19
BETA .80 (1.00 = Market)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
High:	20.4	27.1	29.0	29.0	31.1	30.6	30.4	34.8	38.4	36.7	34.5	33.1
Low:	16.0	18.6	21.4	22.9	25.3	25.9	21.2	22.1	30.8	26.0	26.6	30.5

LEGENDS
— 0.90 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 5/15
Options: Yes
Shaded area indicates recession



18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$23-$37	$30 (-5%)

2023-25 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(+40%)	12%
Low	35	(+10%)	6%

Target Price Range 2023 | 2024 | 2025

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	137	111	101
to Sell	86	99	100
Hld's(000)	76619	77450	77210

Percent shares traded 15 10 5

% TOT. RETURN 1/20

	THIS STOCK	VL ARITH.* INDEX
1 yr.	7.3	7.1
3 yr.	3.7	19.9
5 yr.	26.9	41.0

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	© VALUE LINE PUB. LLC	23-25
14.75	15.89	15.88	16.15	16.18	14.19	15.48	13.71	11.16	11.18	12.98	13.52	13.04	15.63	19.20	17.55	18.00	18.80	Revenues per sh	21.55
1.22	1.25	1.75	1.60	1.74	1.86	2.10	2.23	2.34	2.48	2.67	2.42	2.67	2.79	2.91	2.15	2.75	3.05	"Cash Flow" per sh	3.95
.79	.86	1.23	1.05	1.14	1.19	1.35	1.45	1.52	1.52	1.57	1.44	1.34	1.23	1.38	1.10	1.60	1.80	Earnings per sh A	2.50
.41	.43	.46	.51	.56	.61	.68	.75	.83	.90	.96	1.02	1.06	1.10	1.13	1.16	1.20	1.25	Div'ds Decl'd per sh B ■	1.40
1.34	1.60	1.26	.94	1.04	1.83	2.79	3.20	4.01	4.84	5.01	4.87	3.50	3.43	3.99	5.40	5.90	6.45	Cap'l Spending per sh	7.85
6.20	6.75	7.55	8.12	8.67	9.12	9.54	10.33	11.63	12.64	13.65	14.62	16.22	14.99	14.82	16.15	16.95	17.90	Book Value per sh C	21.30
55.52	57.96	58.65	59.22	59.46	59.59	59.75	60.43	63.31	65.43	68.33	70.97	79.48	79.55	85.51	93.00	95.00	97.00	Common Shs Outst'g D	102.00
14.1	16.6	11.9	17.2	15.9	15.0	16.8	18.4	16.9	18.9	18.0	17.9	21.7	27.9	22.6	28.8	Bold figures are		Avg Ann'l P/E Ratio	16.0
.74	.88	.64	.91	.96	1.00	1.07	1.15	1.08	1.06	.95	.90	1.14	1.40	1.22	1.57	Value Line		Relative P/E Ratio	.90
3.7%	3.0%	3.2%	2.8%	3.1%	3.4%	3.0%	2.8%	3.2%	3.1%	3.4%	3.9%	3.6%	3.2%	3.6%	3.7%	estimates		Avg Ann'l Div'd Yield	3.5%
						925.1	828.6	706.3	731.4	887.0	959.6	1036.5	1243.1	1641.3	1630	1710	1825	Revenues ($mill)	2200
						81.0	87.0	93.3	97.1	104.0	99.0	102.8	98.1	116.2	100	150	175	Net Profit ($mill)	255
						15.2%	22.4%	10.8%	--	--	5.9%	42.0%	--	42.0%	22.0%	21.0%	21.0%	Income Tax Rate	21.0%
						8.8%	10.5%	13.2%	13.3%	11.7%	10.3%	9.9%	7.9%	7.1%	6.1%	8.8%	9.6%	Net Profit Margin	11.6%
						37.4%	40.5%	45.0%	45.1%	48.0%	49.2%	38.5%	48.5%	62.4%	57.5%	57.5%	57.5%	Long-Term Debt Ratio	56.0%
						62.6%	59.5%	55.0%	54.9%	52.0%	50.8%	61.5%	51.5%	37.6%	42.5%	42.5%	42.5%	Common Equity Ratio	44.0%
						910.1	1048.3	1337.6	1507.4	1791.9	2043.9	2097.2	2315.4	3373.9	3550	3810	4085	Total Capital ($mill)	4925
						1193.3	1352.4	1578.0	1859.1	2134.1	2448.1	2623.8	2700.2	3653.5	4100	4500	4850	Net Plant ($mill)	6000
						9.5%	8.9%	7.4%	6.8%	6.4%	5.4%	5.4%	5.1%	4.4%	4.0%	5.0%	5.5%	Return on Total Cap'l	6.0%
						14.2%	13.9%	12.7%	11.7%	11.2%	9.5%	8.0%	8.2%	9.2%	6.5%	9.5%	10.0%	Return on Shr. Equity	11.5%
						14.2%	13.9%	12.7%	11.7%	11.2%	9.5%	8.0%	8.2%	9.2%	6.5%	9.5%	10.0%	Return on Com Equity	11.5%
						7.1%	6.7%	5.8%	4.8%	4.3%	2.8%	1.6%	.9%	1.7%	NMF	2.0%	3.0%	Retained to Com Eq	5.0%
						50%	52%	55%	59%	61%	71%	80%	89%	82%	NMF	76%	69%	All Div'ds to Net Prof	56%

CAPITAL STRUCTURE as of 9/30/19
Total Debt $3174.0 mill. Due in 5 Yrs $1623 mill.
LT Debt $2022.8 mill. LT Interest $75.0 mill.

Leases, Uncapitalized Annual rentals $.8 mill.
Pension Assets-12/18 $287.2 mill. Oblig. $402.2 mill.
Pfd Stock None

Common Stock 92,392,876 shs. as of 11/1/19

MARKET CAP: $3.0 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2017	2018	9/30/19
Cash Assets	7.8	30.0	4.6
Other	431.2	633.2	400.5
Current Assets	439.0	663.2	405.1
Accts Payable	284.9	410.5	245.8
Debt Due	410.2	1004.4	1151.2
Other	188.0	165.9	210.8
Current Liab.	883.1	1580.8	1607.8
Fix. Chg. Cov.	177%	112%	85%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '23-'25
Revenues	--	6.0%	4.5%
"Cash Flow"	5.0%	3.5%	5.0%
Earnings	1.5%	-2.5%	9.5%
Dividends	8.0%	6.0%	3.5%
Book Value	6.5%	6.0%	5.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	425.8	244.4	227.1	345.8	1243.1
2018	521.9	227.3	302.5	589.6	1641.3
2019	637.3	266.9	261.2	464.6	1630
2020	650	275	285	500	1710
2021	690	290	310	535	1825

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	.72	.06	d.05	.50	1.23
2018	1.19	.07	d.27	.39	1.38
2019	1.09	d.13	d.30	.44	1.10
2020	1.20	.05	d.15	.50	1.60
2021	1.25	.10	d.10	.55	1.80

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	--	.264	.264	.536	1.06
2017	--	.273	.273	.553	1.10
2018	--	.280	.280	.567	1.13
2019	--	.287	.287	.582	1.16
2020					

BUSINESS: South Jersey Industries, Inc. is a holding company. Dist. natural gas to approx. 685,000 customers in New Jersey and Maryland. South Jersey Gas rev. mix '18: residential, 46%; commercial, 22%; cogen. and electric gen., 13%; industrial, 19%. Acq. Elizabethtown Gas and Elkton Gas, 7/18. Nonutil. operations include South Jersey Energy, South Jersey Resources Group, South Jersey Exploration, Marina Energy, South Jersey Energy Service Plus, and SJI Midstream. Has about 1,100 employees. Off./dir. own less than 1% of common; BlackRock, 14.9%; The Vanguard Group, 10.9% (3/19 proxy). Pres. & CEO: Michael J. Renna. Chairman: Walter M. Higgins III. Inc.: NJ. Addr.: 1 South Jersey Plaza, Folsom, NJ 08037. Tel.: 609-561-9000. Internet: www.sjindustries.com.

Shares of South Jersey Industries have traded in a fairly narrow range over the past three months. The company posted unimpressive performance for the third quarter, and we expect mixed results for the December period. South Jersey was set to report earnings for the fourth quarter the week after this Issue went to press. For full-year 2019, we estimate a slight top-line decline, but that earnings per share of $1.10 will come in well below the previous-year tally.

The company has announced the sale of its Marina Thermal Facility to DTE Energy Services for $100 million in cash. The proceeds were to be used to repay debt. This move reflects South Jersey's strategy to increase focus on its core operations.

We project higher revenue and a strong share-net rebound for the current year. Growth should continue thereafter, driven primarily by the company's regulated businesses. The utility operation ought to further benefit from expansion in the customer base. Infrastructure investments to upgrade its system should allow South Jersey to meet growing demand for natural gas in its service territories. Infrastructure replacement programs allow this business to earn an authorized return on investment. We anticipate some improvement on the nonutility side, too, though unevenness may well persist in the near term. Efforts by the company to control operating expenses ought to support profitability. The transition to a more-regulated operation will likely bear fruit in the years ahead.

This stock is ranked to track the broader market averages for the coming six to 12 months. Looking further out, this equity offers decent, but not outstanding, risk-adjusted long-term total return potential. The dividend yield is fairly healthy, and we expect that revenues and earnings will continue to rise in the years ahead. On top of that, South Jersey earns good marks for Safety and Price Stability. Volatility is subdued, as well (Beta: 0.80). Conservative, income-oriented investors may find something to like here. That said, a pullback some time down the road may offer subscribers an even more-advantageous entry point.

Michael Napoli, CFA *February 28, 2020*

(A) Based on economic egs. from 2007. GAAP EPS: '08, $1.29; '09, $0.97; '10, $1.11; '11, $1.49; '12, $1.49; '13, $1.28; '14, $1.46; '15, $1.52; '16, $1.56; '17, ($0.04); '18, $0.21. Excl. nonrecur. gain (loss): '08, $0.16; '09, ($0.22); '10, ($0.24); '11, $0.04; '12, ($0.03); '13, ($0.24); '14, ($0.11); '15, $0.08; '16, $0.22; '17, ($1.27); '18, ($1.17). Next egs. rpt. due early May. (B) Div'ds paid early April, July, Oct., and late Dec. ■ Div. reinvest. plan avail. (C) Incl. reg. assets. In 2018: $663.0 mill., $7.75 per shr. (D) In mill., adj. for split.

Company's Financial Strength	B++
Stock's Price Stability	80
Price Growth Persistence	20
Earnings Predictability	60

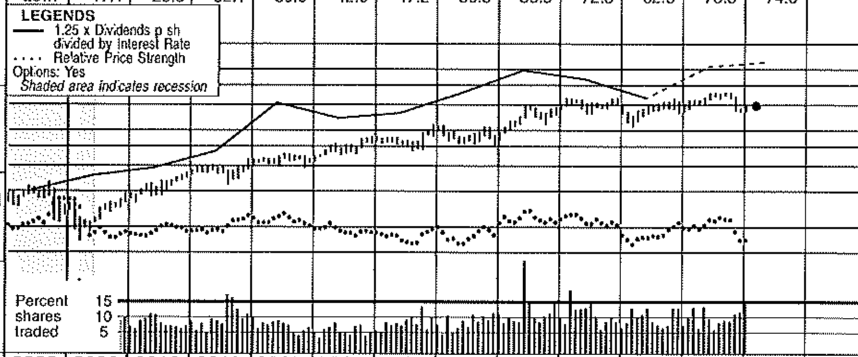
SOUTHWEST GAS NYSE-SWX

RECENT PRICE 79.45 | P/E RATIO 20.0 (Trailing: 21.8, Median: 17.0) | RELATIVE P/E RATIO 1.11 | DIV'D YLD 2.9% | VALUE LINE

TIMELINESS 4 Lowered 2/14/20
SAFETY 3 Lowered 1/4/91
TECHNICAL 5 Lowered 2/7/20
BETA .65 (1.00 = Market)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
High:	29.5	37.3	43.2	46.1	56.0	64.2	63.7	79.6	86.9	86.0	92.9	80.0
Low:	17.1	26.3	32.1	39.0	42.0	47.2	50.5	53.5	72.3	62.5	73.3	74.0

LEGENDS
— 1.25 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: Yes
Shaded area indicates recession



Target Price Range
2023 | 2024 | 2025
160
120
100
80
60
50
40
30
20
15

18-Month Target Price Range
Low-High Midpoint (% to Mid)
$69-$109 $89 (10%)

2023-25 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	115	(+45%)	12%
Low	75	(-5%)	2%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	150	126	153
to Sell	115	141	122
Hld's(000)	44254	45661	45864

Percent shares traded 15 10 5

% TOT. RETURN 1/20

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-1.0	7.1
3 yr.	1.2	19.9
5 yr.	40.1	41.0

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	© VALUE LINE PUB. LLC	23-25
40.14	43.59	48.47	50.28	48.53	42.00	40.18	41.07	41.77	42.08	45.61	52.00	51.82	53.00	54.31	56.35	57.90	59.75	Revenues per sh	65.40
5.57	5.20	5.97	6.21	5.76	6.16	6.46	6.81	7.73	8.24	8.47	8.62	9.29	8.83	8.14	9.20	9.75	10.50	"Cash Flow" per sh	13.25
1.66	1.25	1.98	1.95	1.39	1.94	2.27	2.43	2.86	3.11	3.01	2.92	3.18	3.62	3.68	3.75	4.10	4.50	Earnings per sh A	6.00
.82	.82	.82	.86	.90	.95	1.00	1.06	1.18	1.32	1.46	1.62	1.80	1.98	2.08	2.18	2.30	2.40	Div'ds Decl'd per sh B■†	2.75
8.23	7.49	8.27	7.96	6.79	4.81	4.73	8.29	8.57	7.86	8.53	10.30	11.15	12.97	14.44	17.25	18.40	19.50	Cap'l Spending per sh	21.55
19.18	19.10	21.58	22.98	23.49	24.44	25.62	26.66	28.35	30.47	31.95	33.61	35.03	37.74	42.47	45.45	48.25	51.25	Book Value per sh	62.30
36.79	39.33	41.77	42.81	44.19	45.09	45.56	45.96	46.15	46.36	46.52	47.38	47.48	48.09	53.03	55.00	57.00	59.00	Common Shs Outst'g C	65.00
14.3	20.6	15.9	17.3	20.3	12.2	14.0	15.7	15.0	15.8	17.9	19.4	21.6	22.2	20.6	20.2	Bold figures are		Avg Ann'l P/E Ratio	16.0
.76	1.10	.86	.92	1.22	.81	.89	.98	.95	.89	.94	.98	1.13	1.12	1.11	1.10	Value Line		Relative P/E Ratio	.90
3.5%	3.2%	2.6%	2.6%	3.2%	4.0%	3.2%	2.8%	2.8%	2.7%	2.7%	2.9%	2.6%	2.5%	2.7%	2.9%	estimates		Avg Ann'l Div'd Yield	2.9%
						1830.4	1887.2	1927.8	1950.8	2121.7	2463.6	2460.5	2548.8	2880.0	3100	3300	3525	Revenues ($mill)	4250
						103.9	112.3	133.3	145.3	141.1	138.3	152.0	173.8	182.3	205	230	260	Net Profit ($mill)	380
						34.7%	36.2%	36.2%	35.0%	35.7%	36.4%	33.9%	32.8%	25.3%	21.0%	21.0%	21.0%	Income Tax Rate	21.0%
						5.7%	6.0%	6.9%	7.4%	6.7%	5.6%	6.2%	6.8%	6.3%	6.6%	7.0%	7.4%	Net Profit Margin	8.9%
						49.1%	43.2%	49.2%	49.4%	52.4%	49.3%	48.2%	49.8%	48.3%	50.0%	48.5%	47.0%	Long-Term Debt Ratio	43.5%
						50.9%	56.8%	50.8%	50.6%	47.6%	50.7%	51.8%	50.2%	51.7%	50.0%	51.5%	53.0%	Common Equity Ratio	56.5%
						2291.7	2155.9	2576.9	2793.7	3123.9	3143.5	3213.5	3613.3	4359.3	5000	5350	5725	Total Capital ($mill)	7150
						3072.4	3218.9	3343.8	3486.1	3658.4	3891.1	4132.0	4523.7	5093.2	5450	5850	6150	Net Plant ($mill)	7400
						6.1%	6.4%	6.4%	6.3%	5.7%	5.5%	5.8%	5.8%	5.2%	5.0%	5.5%	5.5%	Return on Total Cap'l	6.0%
						8.9%	9.2%	10.2%	10.3%	9.5%	8.7%	9.1%	9.6%	8.1%	8.0%	8.5%	8.5%	Return on Shr. Equity	9.5%
						8.9%	9.2%	10.2%	10.3%	9.5%	8.7%	9.1%	9.6%	8.1%	8.0%	8.5%	8.5%	Return on Com Equity	9.5%
						5.1%	5.3%	6.1%	6.1%	5.0%	4.0%	4.1%	4.5%	3.6%	3.5%	3.5%	4.0%	Retained to Com Eq	5.0%
						43%	43%	40%	41%	47%	54%	55%	53%	55%	58%	57%	54%	All Div'ds to Net Prof	47%

CAPITAL STRUCTURE as of 9/30/19
Total Debt $2530.3 mill. Due in 5 Yrs $869.1 mill.
LT Debt $2462.1 mill. LT Interest $100.0 mill.
(Total interest coverage: 3.4x) (50% of Cap'l)
Leases, Uncapitalized Annual rentals $11.0 mill.
Pension Assets-12/18 $838.0 mill. Oblig. $1186.0 mill.
Pfd Stock None

Common Stock 54,626,240 shs. as of 10/31/19

MARKET CAP: $4.3 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2017	2018	9/30/19
Cash Assets	43.6	85.4	28.5
Other	613.4	754.4	736.9
Current Assets	657.0	839.8	765.4
Accts Payable	228.3	249.0	188.9
Debt Due	239.8	185.1	68.2
Other	347.8	504.5	525.2
Current Liab.	815.9	938.6	782.3
Fix. Chg. Cov.	415%	370%	346%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '23-'25
Revenues	1.0%	5.0%	3.0%
"Cash Flow"	4.0%	3.0%	6.0%
Earnings	7.0%	4.5%	8.0%
Dividends	8.5%	10.5%	5.0%
Book Value	5.5%	6.0%	7.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	654.7	560.5	593.2	740.4	2548.8
2018	754.3	670.9	668.1	786.7	2880.0
2019	833.5	713.0	725.2	828.3	3100
2020	860	775	780	885	3300
2021	910	825	840	950	3525

Cal-endar	EARNINGS PER SHARE A D Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2017	1.45	.37	.21	1.58	3.62
2018	1.63	.44	.25	1.36	3.68
2019	1.77	.41	.10	1.47	3.75
2020	1.90	.45	.15	1.60	4.10
2021	2.05	.50	.20	1.75	4.50

Cal-endar	QUARTERLY DIVIDENDS PAID B■† Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.405	.450	.450	.450	1.76
2017	.450	.495	.495	.495	1.94
2018	.495	.520	.520	.520	2.06
2019	.520	.545	.545	.545	2.16
2020					

BUSINESS: Southwest Gas Holdings, Inc. is the parent holding company of Southwest Gas and Centuri Construction Group. Southwest Gas is a regulated gas distributor serving about 2.0 million customers in sections of Arizona, Nevada, and California. Centuri provides construction services. 2018 margin mix: residential and small commercial, 85%; large commercial and industrial, 3%; transportation, 12%. Total throughput: 2.2 billion therms. Has 8,632 employees. Off. & dir. own .8% of common stock; BlackRock Inc., 11.7%; The Vanguard Group, Inc., 10.1% (3/19 Proxy). Chairman: Michael J. Melarkey. President & CEO: John P. Hester. Inc.: CA. Addr.: 5241 Spring Mountain Road, Las Vegas, Nevada 89193. Telephone: 702-876-7237. Internet: www.swgas.com.

Shares of Southwest Gas have remained in a holding pattern since our November review. The company reported mixed results for the third quarter. The top line advanced nicely for the period, though greater operating expenses and a significantly higher income tax rate constrained earnings per share. Healthy revenue growth probably continued for the December period. The company's natural gas operations and its utility infrastructure services line have fared relatively well lately. We anticipate a more favorable bottom-line comparison, as well, assuming greater cost control. Southwest Gas was set to report earnings for the fourth quarter the week after this Issue went to press.

We anticipate moderate growth for the company from 2020 onward. Southwest's utility operations ought to further benefit from an expanding customer base. Investments to bolster the safety and reliability of its gas distribution system should support growth here. Southwest Gas currently has rate cases in several regulatory jurisdictions, which will probably be decided in the current year. The utility depends on such approved revenue increases to offset rising costs and allow it to earn a satisfactory return on capital investment. Elsewhere, Southwest's utility infrastructure services operation will probably continue to perform well. This business should be able to capitalize on the need for utilities to replace aging infrastructure. It has a healthy base of large clients, many with multiyear pipeline replacement programs.

This stock is ranked to trail the broader market averages for the coming six to 12 months. We project decent top-line gains and that share net will rise a bit faster over the next few years. However, this appears to be partly discounted by the recent quotation, and long-term appreciation potential is not particularly compelling. Moreover, the stock's dividend yield does not stand out for a utility. A further selloff in the future may offer conservative investors a more attractive entry point. Southwest Gas earns favorable marks for Price Stability, Growth Persistence, and Earnings Predictability. Volatility is below average, too.

Michael Napoli, CFA *February 28, 2020*

(A) Diluted earnings. Excl. nonrec. gains (losses): '02, (10¢); '05, (11¢); '06, 7¢. Next egs. report due early May. (B) Dividends historically paid early March, June, September, and December. ■† Div'd reinvestment and stock purchase plan avail. (C) In millions. (D) Totals may not sum due to rounding.

Company's Financial Strength	A
Stock's Price Stability	85
Price Growth Persistence	75
Earnings Predictability	90

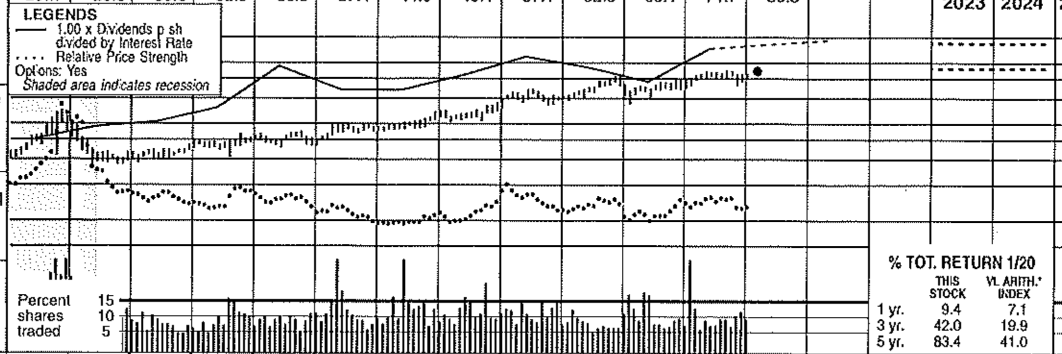
SPIRE INC. NYSE-SR

RECENT PRICE 87.60 | P/E RATIO 23.1 (Trailing: 25.4 / Median: 18.0) | RELATIVE P/E RATIO 1.28 | DIV'D YLD 2.9% | VALUE LINE

TIMELINESS 3 Lowered 11/30/18
SAFETY 2 Raised 6/20/03
TECHNICAL 4 Lowered 2/28/20
BETA .60 (1.00 = Market)

High:	48.3	37.8	42.8	44.0	48.5	55.2	61.0	71.2	82.9	81.1	88.0	88.0
Low:	29.3	30.8	32.9	36.5	37.4	44.0	49.1	57.1	62.3	60.1	71.7	80.8

Target Price Range 2023 | 2024 | 2025



18-Month Target Price Range
Low-High Midpoint (% to Mid)
$78-$111 $95 (10%)

2023-25 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	120	(+35%)	10%
Low	90	(+5%)	4%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	140	116	115
to Sell	114	131	117
Hld's(000)	40023	40622	41800

% TOT. RETURN 1/20

	THIS STOCK	VL ARITH.* INDEX
1 yr.	9.4	7.1
3 yr.	42.0	19.9
5 yr.	83.4	41.0

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	© VALUE LINE PUB. LLC	23-25
59.59	75.43	93.51	93.40	100.44	85.49	77.83	71.48	49.90	31.10	37.68	45.59	33.68	36.07	38.78	38.30	*37.90*	*39.05*	Revenues per sh A	*58.20*
2.79	2.98	3.81	3.87	4.22	4.56	4.11	4.62	4.58	3.12	3.87	6.15	6.16	6.54	7.55	7.12	*7.60*	*8.05*	"Cash Flow" per sh	*9.75*
1.82	1.90	2.37	2.31	2.64	2.92	2.43	2.86	2.79	2.02	2.35	3.16	3.24	3.43	4.33	3.52	*3.80*	*4.05*	Earnings per sh A B	*5.15*
1.35	1.37	1.40	1.45	1.49	1.53	1.57	1.61	1.66	1.70	1.76	1.84	1.96	2.10	2.25	2.37	*2.49*	*2.61*	Div'ds Decl'd per sh C■	*3.00*
2.45	2.84	2.97	2.72	2.57	2.36	2.56	3.02	4.83	4.00	3.96	6.68	6.42	9.08	9.86	16.15	*11.75*	*12.00*	Cap'l Spending per sh	*13.00*
16.96	17.31	18.85	19.79	22.12	23.32	24.02	25.56	26.67	32.00	34.93	36.30	38.73	41.26	44.51	45.14	*54.00*	*58.55*	Book Value per sh D	*72.00*
20.98	21.17	21.36	21.65	21.99	22.17	22.29	22.43	22.55	32.70	43.18	43.36	45.65	48.26	50.67	50.97	*52.00*	*52.50*	Common Shs Outst'g E	*55.00*
15.7	16.2	13.6	14.2	14.3	13.4	13.7	13.0	14.5	21.3	19.8	16.5	19.6	19.8	16.7	22.8	*Bold figures are*		Avg Ann'l P/E Ratio	*20.5*
.83	.86	.73	.75	.86	.89	.87	.82	.92	1.20	1.04	.83	1.03	1.00	.90	1.24	*Value Line*		Relative P/E Ratio	*1.15*
4.7%	4.4%	4.3%	4.4%	3.9%	3.9%	4.7%	4.3%	4.1%	4.0%	3.8%	3.5%	3.1%	3.1%	3.1%	3.0%	*estimates*		Avg Ann'l Div'd Yield	*2.9%*

CAPITAL STRUCTURE as of 12/31/19
Total Debt $3048.6. mill. Due in 5 Yrs $725.0 mill.
LT Debt $2484.4 mill. LT Interest $120.0 mill.
(Total interest coverage: 3.1x)

Leases, Uncapitalized Annual rentals $8.2 mill.
Pension Assets-9/19 $521.8 mill. Oblig. $751.4 mill.
Pfd Stock $242.0 mill. Pfd Div'd $3.4 mill.
Common Stock 51,068,070 shs. as of 1/31/20

MARKET CAP: $4.5 billion (Mid Cap)

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		23-25
1735.0	1603.3	1125.5	1017.0	1627.2	1976.4	1537.3	1740.7	1965.0	1952.4	*1970*	*2050*	Revenues ($mill) A	*3200*
54.0	63.8	62.6	52.8	84.6	136.9	144.2	161.6	214.2	184.6	*200*	*215*	Net Profit ($mill)	*285*
33.4%	31.4%	29.6%	25.0%	27.6%	31.2%	32.5%	32.4%	32.4%	15.7%	*16.0%*	*17.0%*	Income Tax Rate	*23.5%*
3.1%	4.0%	5.6%	5.2%	5.2%	6.9%	9.4%	9.3%	10.9%	9.5%	*10.2%*	*10.5%*	Net Profit Margin	*8.9%*
40.5%	38.9%	36.1%	46.6%	55.1%	53.0%	50.9%	50.0%	45.7%	45.0%	*48.0%*	*47.0%*	Long-Term Debt Ratio	*45.0%*
59.5%	61.1%	63.9%	53.4%	44.9%	47.0%	49.1%	50.0%	54.3%	55.0%	*52.0%*	*53.0%*	Common Equity Ratio	*55.0%*
899.9	937.7	941.0	1959.0	3359.4	3345.1	3601.9	3986.3	4155.5	4625.6	*5400*	*5800*	Total Capital ($mill)	*7200*
884.1	928.7	1019.3	1776.6	2759.7	2941.2	3300.9	3665.2	3970.5	4352.0	*4740*	*5160*	Net Plant ($mill)	*6500*
7.4%	8.1%	7.9%	3.3%	3.1%	5.1%	4.9%	5.0%	6.3%	5.1%	*5.0%*	*5.0%*	Return on Total Cap'l	*5.5%*
10.1%	11.1%	10.4%	5.0%	5.6%	8.7%	8.2%	8.1%	9.5%	7.3%	*7.0%*	*7.0%*	Return on Shr. Equity	*7.0%*
10.1%	11.1%	10.4%	5.0%	5.6%	8.7%	8.2%	8.1%	9.5%	7.9%	*7.0%*	*7.0%*	Return on Com Equity	*7.0%*
3.6%	4.9%	4.3%	1.0%	1.5%	3.7%	3.3%	3.3%	4.7%	2.7%	*2.5%*	*2.5%*	Retained to Com Eq	*3.0%*
64%	56%	59%	81%	73%	58%	59%	60%	51%	66%	*66%*	*65%*	All Div'ds to Net Prof	*60%*

CURRENT POSITION ($MILL.)

	2018	2019	12/31/19
Cash Assets	4.4	5.8	21.5
Other	655.2	608.7	754.9
Current Assets	659.6	614.5	776.4
Accts Payable	290.1	301.5	307.9
Debt Due	729.1	783.2	564.2
Other	302.5	384.1	380.4
Current Liab.	1321.7	1468.8	1252.5
Fix. Chg. Cov.	284%	272%	275%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '17-'19 to '23-'25
Revenues	-8.5%	-1.0%	*7.5%*
"Cash Flow"	5.5%	13.0%	*5.5%*
Earnings	3.5%	9.5%	*5.5%*
Dividends	4.0%	5.5%	*5.0%*
Book Value	7.0%	7.0%	*8.5%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.)A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2017	495.1	663.4	323.5	258.7	1740.7
2018	561.8	813.4	350.6	239.2	1965.0
2019	602.0	803.5	321.3	225.6	1952.4
2020	566.9	*778.1*	*365*	*260*	*1970*
2021	*590*	*800*	*385*	*275*	*2050*

Fiscal Year Ends	EARNINGS PER SHARE A B F Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2017	.99	2.36	.45	d.28	3.43
2018	2.39	2.03	.52	d.51	4.33
2019	1.32	3.04	d.09	d.74	3.52
2020	1.24	*2.60*	*.51*	*d.55*	*3.80*
2021	*1.30*	*2.76*	*.56*	*d.57*	*4.05*

Cal-endar	QUARTERLY DIVIDENDS PAID C■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.49	.49	.49	.49	1.96
2017	.525	.525	.525	.525	2.10
2018	.5625	.5625	.5625	.5625	2.25
2019	.5925	.5925	.5925	.5925	2.37
2020	.6225				

BUSINESS: Spire Inc., formerly known as the Laclede Group, Inc., is a holding company for natural gas utilities, which distributes natural gas across Missouri, including the cities of St. Louis and Kansas City, Alabama, and Mississippi. Has roughly 1.7 million customers. Acquired Missouri Gas 9/13, Alabama Gas Co 9/14. Utility therms sold and transported in fiscal 2019: 3.4 bill. Revenue mix for regulated operations: residential, 68%; commercial and industrial, 23%; transportation, 6%; other, 3%. Has about 3,536 employees. Officers and directors own 2.9% of common shares; BlackRock, 15.0% (1/20 proxy). Chairman: Edward Glotzbach; CEO: Suzanne Sitherwood. Inc.: Missouri. Address: 700 Market Street, St. Louis, Missouri 63101. Tel.: 314-342-0500. Internet: www.spireenergy.com.

Spire Inc. got off to a sluggish start in fiscal 2020, which concludes September 30th. Indeed, first-quarter share net retreated 6%, to $1.24, relative to the year-earlier tally of $1.32. This was partially because the Gas Marketing segment incurred an unrealized loss of $0.07 a share on energy-related derivatives, while the fiscal 2019 amount includes a $0.04 gain from that activity. Elsewhere, the Gas Utility division's performance was slightly better.

Nevertheless, results for the entire year ought to be higher. The 65-mile Spire STL Pipeline, delivering natural gas into eastern Missouri, has been open for business since November, 2019. Furthermore, the company faces a very easy third-quarter comparison. Consequently, profits may well advance about 8%, to $3.80 a share. Assuming additional widening of operating margins, next year's share net stands to rise another 6% or so, to $4.05.

Fiscal 2020 capital expenditures are anticipated to be approximately $610 million. This is significantly lower than the previous-year figure of $823 million, due, to some degree, to the completion of the Spire STL Pipeline. Funds are being used for such things as infrastructure upgrades at the utilities and new business development initiatives. Management looks for total spending during the 2019-2023 period to be about $3 billion, which seems reasonable.

The quarterly dividend was hiked 5%, to $0.623 a share. Of course, solid finances made that possible. What's more, our 2023-2025 projections call for further steady increases in the distribution. The payout ratio over that span should be manageable, in 60% range. Note, also, that the yield compares favorably to those of other equities in *Value Line's* Natural Gas Utility Industry.

These good-quality shares have climbed sharply since our last full-page review in November. We think that reflects market optimism surrounding Spire's fiscal 2020 earnings prospects, despite the not-so-great first-quarter showing. But this price action has dampened the stock's 3- to 5-year total return potential. For now, the Timeliness rank is only 3 (Average).

Frederick L. Harris, III February 28, 2020

(A) Fiscal year ends Sept. 30th. (B) Based on diluted shares outstanding. Excludes nonrecurring loss: '06, 7¢. Excludes gain from discontinued operations: '08, 94¢. Next earnings report due late April. (C) Dividends paid in early January, April, July, and October. ■ Dividend reinvestment plan available. (D) Incl. deferred charges. In '19: $1,171.6 mill., $22.99/sh. (E) In millions. (F) Qtly. egs. may not sum due to rounding or change in shares outstanding.

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	60
Earnings Predictability	65

UGI CORP. NYSE-UGI

RECENT PRICE 41.27 | P/E RATIO 14.0 (Trailing: 15.6 Median: 17.0) | RELATIVE P/E RATIO 0.78 | DIV'D YLD 3.1% | VALUE LINE

TIMELINESS 4 Lowered 12/13/19
SAFETY 2 Raised 9/17/04
TECHNICAL 3 Raised 2/7/20
BETA .75 (1.00 = Market)

18-Month Target Price Range
Low-High Midpoint (% to Mid)
$36-$65 $51 (20%)

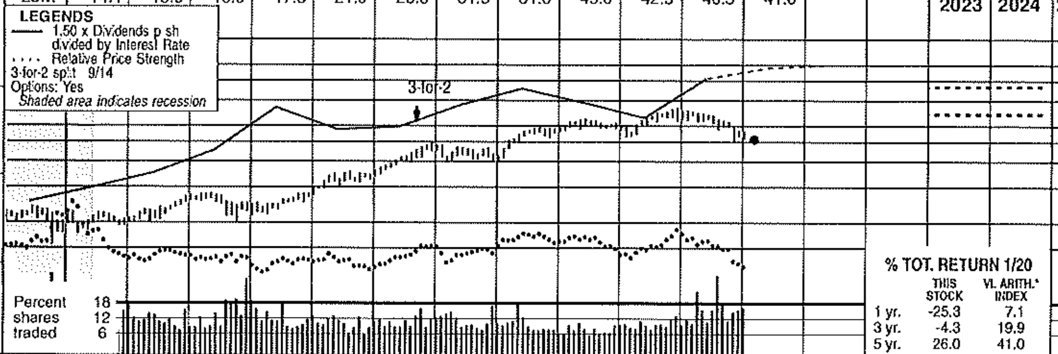
2023-25 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(+80%)	18%
Low	55	(+35%)	10%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	221	175	321
to Sell	202	255	166
Hld's(000)	139448	148912	160038

High:	18.3	21.7	22.4	22.4	28.8	39.7	38.6	48.1	52.0	59.3	57.3	45.3
Low:	14.1	15.9	16.0	17.3	21.9	26.8	31.5	31.6	45.0	42.5	40.5	41.0



% TOT. RETURN 1/20

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-25.3	7.1
3 yr.	-4.3	19.9
5 yr.	26.0	41.0

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	© VALUE LINE PUB. LLC	23-25
24.63	31.10	33.01	34.24	41.27	35.25	34.01	36.31	38.56	42.10	47.92	38.65	32.84	35.18	43.94	35.03	39.30	40.50	Revenues per sh A	45.55
1.63	2.09	2.05	2.26	2.48	2.82	2.87	2.75	3.05	3.75	4.05	4.20	4.39	4.73	5.40	4.12	5.15	5.85	"Cash Flow" per sh	6.60
.81	1.15	1.10	1.18	1.33	1.57	1.59	1.37	1.17	1.59	1.92	2.01	2.05	2.29	2.74	2.28	2.95	3.60	Earnings per sh AB	4.15
.40	.43	.46	.48	.50	.52	.60	.68	.71	.74	.79	.89	.93	.96	1.02	1.15	1.30	1.34	Div'ds Decl'd per sh C ■	1.46
.87	1.01	1.21	1.39	1.44	1.85	2.11	2.15	2.01	2.84	2.64	2.83	3.26	3.67	3.30	3.37	3.35	3.45	Cap'l Spending per sh	3.55
5.43	6.35	6.95	8.26	8.80	9.78	11.10	11.79	13.21	14.59	15.39	15.55	16.46	18.18	21.14	18.27	20.15	22.45	Book Value per sh D	30.15
153.63	157.20	158.18	159.97	161.09	162.78	164.38	167.75	169.06	170.88	172.73	173.12	173.15	173.99	174.14	209.01	210.00	210.00	Common Shs Outst'g E	210.00
13.4	13.8	14.0	15.1	13.3	10.3	10.9	15.0	16.4	15.4	15.8	17.7	19.3	20.8	17.8	23.4	Bold figures are		Avg Ann'l P/E Ratio	16.0
.71	.73	.76	.80	.80	.69	.69	.94	1.04	.87	.83	.89	1.01	1.05	.96	1.28	Value Line		Relative P/E Ratio	.90
3.7%	2.7%	3.0%	2.7%	2.9%	3.2%	3.5%	3.3%	3.7%	3.0%	2.6%	2.5%	2.3%	2.0%	2.1%	2.2%	estimates		Avg Ann'l Div'd Yield	2.4%
						5591.4	6091.3	6519.2	7194.7	8277.3	6691.1	5685.7	6120.7	7651.2	7320.4	8250	8500	Revenues ($mill) A	9565
						261.0	232.9	199.4	278.1	337.2	353.8	360.0	406.5	485.6	412.9	625	765	Net Profit ($mill)	885
						32.0%	29.8%	34.8%	27.6%	30.6%	30.0%	31.4%	26.5%	26.5%	16.6%	17.0%	17.0%	Income Tax Rate	17.0%
						4.7%	3.8%	3.1%	3.9%	4.1%	5.3%	6.3%	6.6%	6.3%	5.6%	7.6%	9.0%	Net Profit Margin	9.3%
						44.0%	51.6%	60.0%	58.7%	56.4%	56.1%	56.9%	55.8%	53.0%	60.2%	58.0%	55.5%	Long-Term Debt Ratio	349.5
						56.0%	48.4%	40.0%	41.3%	43.6%	43.9%	43.1%	44.2%	47.0%	39.8%	42.0%	44.5%	Common Equity Ratio	50.5%
						3256.7	4088.0	5580.7	6034.7	6092.7	6133.8	6616.9	7157.9	7827.9	9597.4	10025	10610	Total Capital ($mill)	12535
						3053.2	3204.5	4233.1	4480.2	4543.7	4994.1	5238.0	5537.0	5808.2	6687.8	7700	8865	Net Plant ($mill)	13535
						10.1%	7.4%	5.6%	6.6%	7.5%	7.7%	7.2%	7.2%	7.7%	5.6%	6.0%	7.0%	Return on Total Cap'l	7.0%
						14.3%	11.8%	8.9%	11.2%	12.7%	13.1%	12.6%	12.9%	13.2%	10.8%	15.0%	16.5%	Return on Shr. Equity	14.0%
						14.3%	11.8%	8.9%	11.2%	12.7%	13.1%	12.6%	12.9%	13.2%	10.8%	15.0%	16.5%	Return on Com Equity	14.0%
						8.9%	6.0%	3.6%	6.1%	7.6%	7.4%	7.0%	7.5%	8.4%	5.6%	8.5%	10.5%	Retained to Com Eq	9.0%
						38%	49%	60%	45%	40%	43%	45%	42%	36%	48%	46%	37%	All Div'ds to Net Prof	35%

CAPITAL STRUCTURE as of 12/31/19
Total Debt $6725.1 mill. Due in 5 Yrs $2047 mill.
LT Debt $5827.6 mill. LT Interest $257.8 mill.
(Total interest coverage: 4.0x) (59% of Cap'l)

Leases, Uncapitalized Annual rentals $100.4 mill.
Pension Assets-9/19 $563 mill. **Oblig.** $773 mill.

Pfd Stock None

Common Stock 208,548,324 shares as of 1/31/20

MARKET CAP: $8.6 bill. (Large Cap)

CURRENT POSITION ($MILL.)	2018	2019	12/31/19
Cash Assets	452.6	447.1	333.4
Other	1435.5	1119.1	1613.6
Current Assets	1888.1	1566.2	1947.0
Accts Payable	561.8	438.8	598.3
Debt Due	525.3	820.4	897.5
Other	645.0	767.7	895.7
Current Liab.	1732.1	2026.9	2391.5
Fix. Chg. Cov.	445%	445%	450%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '17-'19 to '23-'25
Revenues	0.5%	-2.5%	3.0%
"Cash Flow"	6.5%	5.5%	5.5%
Earnings	6.0%	9.5%	9.5%
Dividends	7.5%	7.0%	6.0%
Book Value	8.0%	6.0%	8.0%

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2017	1680	2174	1153	1114	6120.7
2018	2125	2812	1441	1273	7651.2
2019	2200	2606	1364	1150	7320.4
2020	2007	2890	1785	1568	8250
2021	2070	2950	1845	1635	8500

Fiscal Year Ends	EARNINGS PER SHARE A B Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2017	.91	1.31	.09	d.02	2.29
2018	1.01	1.69	.09	d.05	2.74
2019	.81	1.43	.13	d.09	2.28
2020	1.17	1.57	.26	d.05	2.95
2021	1.35	1.75	.55	d.05	3.60

Cal-endar	QUARTERLY DIVIDENDS PAID C ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.23	.238	.238	.238	.94
2017	.238	.238	.25	.25	.98
2018	.25	.25	.26	.26	1.02
2019	.26	.26	.30	.325	1.15
2020	.325				

BUSINESS: UGI Corp. operates six business segments: AmeriGas Propane (accounted for 24.3% of net income in 2018), UGI International (19.3%), Gas Utility (20.7%), Midstream & Marketing (27.4%), and Corp. & Other (8.3%). UGI Utilities distributes natural gas and electricity to over 655,000 customers mainly in Pennsylvania; 26%-owned AmeriGas Partners is the largest U.S. propane marketer, serving about 1.3 million users in 50 states. Acquired remaining 80% interest in Antargaz (3/04); Energy Transfer Partners (1/12). Vanguard Group owns 10.6% of stock; Blackrock, 10.3%; Officers/directors, 2.2% (12/19 proxy). Has 12,800 empls. President & CEO: John L. Walsh. Inc.: PA. Address: 460 N. Gulph Rd., King of Prussia, PA 19406. Tel.: 610-337-1000. Internet: www.ugicorp.com.

UGI Corp. posted mixed fiscal first-quarter financial results. On the downside, the top line fell significantly short of our estimate. The sharp drop in commodity prices, coupled with warmer-than-normal weather patterns across the bulk of UGI's service territory, weighed on revenues, which declined 8.8% on a year-over-year basis, to $2.007 billion. On the upside, this was the first quarter that had the full benefit of the AmeriGas and CMG acquisitions. Additionally, although the drop in commodity prices will have a negative impact on the top line, it does benefit margins by reducing cost of goods sold at the same time. That metric fell 14.6% as a percentage of revenues. Even after a sharp rise in share count due to recent acquisitions, UGI's earnings skyrocketed 44.4%, to $1.17 per share. This was markedly above our call for share net of $0.94.

As a result, we have raised our fiscal 2020 bottom-line estimate by $0.15, to $2.95 a share. This figure would represent an annual earnings advance of almost 30%. The hefty profit increase ought to stem from estimated top-line growth of roughly 12.5%, to $8.250 billion, stemming from the incremental contributions of the AmeriGas Propane acquisition. Meantime, the UGI International, Midstream & Marketing and UGI Utility arms should also be nicely additive to overall operations. Capital expansion projects, like the recent completion and in-service placement of the Auburn IV project back in November will likely aid overall system throughput and help to offset warmer weather patterns. Finally, we are introducing our fiscal 2021 top- and bottom-line estimates at $8.5 billion and $3.60 a share, respectively.

The overall financial position has softened a bit. During the first quarter, cash reserves fell more than 25%, to $333.4 million. At the same time, the long-term debt load ticked about 1% higher, to roughly $5.83 billion. This form of financing now represents just under 60% of the capital structure.

These shares may appeal to patient, risk-tolerant accounts. Although untimely, UGI stock offers attractive 3- to 5-year recovery potential, a healthy dividend yield, and solid dividend growth potential.

Bryan J. Fong *February 28, 2020*

(A) Fiscal year ends Sept. 30. Quarterly sales and earnings may not sum to total due to rounding and/or change in share count. (B) Diluted earnings. Excludes nonrecur. gains/(losses): '04, d6¢; '05, 3¢; '06, 5¢; '07, 12¢; '15, (41¢); '16, 3¢; '17, 17¢; '18, $1.32. Next egs. report due late April. (C) Dividends historically paid in early Jan., April, July, and Oct. ■ Div. reinvest. plan available. (D) Incl. intang. At 9/19: $4,165 mill., $19.93/sh. (E) In mill., adjusted for stock splits.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	90
Earnings Predictability	75

WGL HOLDINGS NYSE-WGL

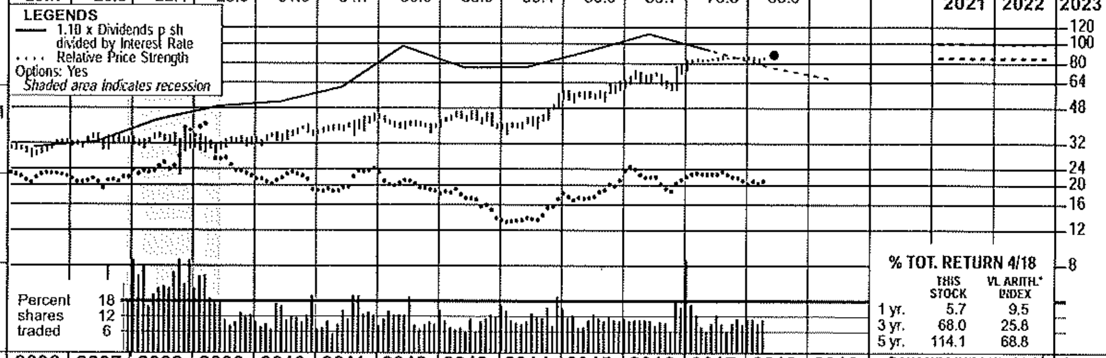
RECENT PRICE 88.19 | P/E RATIO 20.9 (Trailing: 21.8 / Median: 16.0) | RELATIVE P/E RATIO 1.15 | DIV'D YLD 2.3% | VALUE LINE

TIMELINESS — Suspended 2/3/17
SAFETY 1 Raised 4/2/93
TECHNICAL — Suspended 2/3/17
BETA .75 (1.00 = Market)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
High:	35.9	37.1	35.5	40.0	45.0	45.0	47.0	56.8	65.6	80.0	86.9	88.3
Low:	29.8	22.4	28.6	31.0	34.7	36.0	38.0	35.4	50.9	58.7	73.5	80.9

Target Price Range

2021	2022	2023



2021-23 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	100	(+15%)	6%
Low	85	(-5%)	2%

Insider Decisions

	J	A	S	O	N	D	J	F	M
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	14	0	0	8	0	0
to Sell	0	0	1	0	0	0	0	0	0

Institutional Decisions

	2Q2017	3Q2017	4Q2017
to Buy	132	113	103
to Sell	105	113	90
Hld's(000)	40665	41917	37069

% TOT. RETURN 4/18

	THIS STOCK	VL ARITH.* INDEX
1 yr.	5.7	9.5
3 yr.	68.0	25.8
5 yr.	114.1	68.8

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	© VALUE LINE PUB. LLC	21-23
32.63	42.45	42.93	44.94	53.96	53.51	52.65	53.98	53.60	53.75	47.07	47.70	53.73	53.43	45.74	45.99	*47.65*	*47.70*	Revenues per sh A	*51.15*
2.63	4.00	3.87	3.97	3.84	3.89	4.34	4.44	4.11	4.01	4.53	4.29	4.80	5.60	5.77	6.11	*7.05*	*7.20*	"Cash Flow" per sh	*7.70*
1.14	2.30	1.98	2.13	1.94	2.09	2.44	2.53	2.27	2.25	2.68	2.31	2.68	3.16	3.27	3.11	*4.15*	*4.25*	Earnings per sh B	*4.60*
1.27	1.28	1.30	1.32	1.35	1.37	1.41	1.47	1.50	1.55	1.59	1.66	1.72	1.83	1.93	2.02	*2.06*	*2.12*	Div'ds Decl'd per sh C ■	*2.24*
3.34	2.65	2.33	2.32	3.27	3.33	2.70	2.77	2.57	3.94	4.87	6.04	7.63	9.33	10.33	10.09	*10.85*	*11.10*	Cap'l Spending per sh	*11.80*
15.78	16.25	16.95	17.80	18.86	19.83	20.99	21.89	22.82	23.49	24.64	24.65	24.08	24.97	26.78	29.35	*33.10*	*35.90*	Book Value per sh D	*43.10*
48.56	48.63	48.67	48.65	48.89	49.45	49.92	50.14	50.54	51.20	51.52	51.70	51.76	49.78	51.37	51.21	*53.00*	*54.00*	Common Shs Outst'g E	*55.00*
23.1	11.1	14.2	14.7	15.5	15.6	13.7	12.6	15.1	17.0	15.3	18.2	15.2	17.0	20.0	25.4	*Bold figures are*		Avg Ann'l P/E Ratio	*20.0*
1.26	.63	.75	.78	.84	.83	.82	.84	.96	1.07	.97	1.02	.80	.86	1.05	1.32	*Value Line*		Relative P/E Ratio	*1.10*
4.8%	5.0%	4.6%	4.2%	4.5%	4.2%	4.2%	4.6%	4.4%	4.1%	3.9%	3.9%	4.2%	3.4%	2.9%	2.6%	*estimates*		Avg Ann'l Div'd Yield	*2.4%*
						2628.2	2706.9	2708.9	2751.5	2425.3	2466.1	2780.9	2659.8	2349.6	2354.7	*2525*	*2575*	Revenues ($mill) A	*2815*
						122.9	128.7	115.0	115.5	138.4	119.7	139.0	158.2	165.1	160.2	*220*	*230*	Net Profit ($mill)	*255*
						37.1%	39.1%	38.7%	42.4%	40.1%	30.2%	29.0%	39.9%	37.9%	39.2%	*22.0%*	*22.0%*	Income Tax Rate	*22.0%*
						4.7%	4.8%	4.2%	4.2%	5.7%	4.9%	5.0%	5.9%	7.0%	6.8%	*8.5%*	*9.0%*	Net Profit Margin	*9.0%*
						35.9%	33.3%	33.4%	32.3%	31.2%	28.7%	34.8%	42.6%	50.7%	48.3%	*50.0%*	*49.0%*	Long-Term Debt Ratio	*42.0%*
						62.4%	65.0%	65.0%	66.2%	67.3%	69.8%	63.8%	56.1%	48.3%	50.7%	*49.0%*	*50.0%*	Common Equity Ratio	*57.5%*
						1679.5	1687.7	1774.4	1818.1	1886.9	1826.8	1954.0	2215.6	2848.0	2961.7	*3580*	*3875*	Total Capital ($mill)	*4405*
						2208.3	2269.1	2346.2	2489.9	2667.4	2907.5	3314.4	3672.7	4127.2	4630.1	*5195*	*5825*	Net Plant ($mill)	*8225*
						8.5%	8.8%	7.6%	7.5%	8.3%	7.5%	8.1%	8.3%	6.7%	6.7%	*8.0%*	*8.0%*	Return on Total Cap'l	*7.5%*
						11.4%	11.4%	9.7%	9.4%	10.7%	9.2%	10.9%	12.4%	11.8%	10.5%	*12.5%*	*12.0%*	Return on Shr. Equity	*11.0%*
						11.6%	11.6%	9.9%	9.5%	10.8%	9.3%	11.0%	12.6%	11.9%	10.7%	*12.5%*	*12.0%*	Return on Com Equity	*11.0%*
						5.0%	5.0%	3.3%	3.4%	4.8%	2.6%	4.3%	5.4%	5.3%	3.7%	*6.0%*	*6.0%*	Retained to Com Eq	*3.0%*
						57%	57%	67%	64%	56%	72%	62%	58%	56%	65%	*49%*	*50%*	All Div'ds to Net Prof	*70%*

CAPITAL STRUCTURE as of 3/31/18
Total Debt $2404.1 mill. Due in 5 Yrs $801.4 mill.
LT Debt $1879.3 mill. LT Interest $74.0 mill.
(LT interest earned: 6.2x; total interest coverage: 5.7x) (51% of Total Capital)
Pension Assets-9/17 $1,356.5 mill. Oblig. $1,413.0 mill.
Preferred Stock $28.2 mill. Pfd. Div'd $1.3 mill.

Common Stock 51,359,182 shs. as of 4/30/18

MARKET CAP: $4.5 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2016	2017	3/31/18
Cash Assets	5.6	8.5	46.3
Other	837.9	977.4	974.7
Current Assets	843.5	985.9	1021.0
Accts Payable	405.4	423.8	358.0
Debt Due	331.4	809.8	524.8
Other	290.1	255.4	271.0
Current Liab.	1026.9	1489.0	1153.8
Fix. Chg. Cov.	546%	550%	550%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '15-'17 to '21-'23
Revenues	-.5%	-1.0%	*1.0%*
"Cash Flow"	4.0%	6.5%	*4.5%*
Earnings	4.5%	6.0%	*6.5%*
Dividends	3.5%	4.5%	*2.5%*
Book Value	3.5%	2.5%	*8.0%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2015	749.2	1001.7	441.2	467.7	2659.8
2016	613.4	835.7	440.6	459.9	2349.6
2017	609.5	841.7	474.4	429.1	2354.7
2018	652.4	886.4	*510*	*476.2*	*2525*
2019	*675*	*880*	*530*	*490*	*2575*

Fiscal Year Ends	EARNINGS PER SHARE A B Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2015	1.16	2.02	.22	d.23	3.16
2016	1.18	1.78	.33	d.01	3.27
2017	1.15	1.87	.26	d.17	3.11
2018	1.84	2.12	*.41*	*d.22*	*4.15*
2019	*1.90*	*2.02*	*.48*	*d.15*	*4.25*

Cal-endar	QUARTERLY DIVIDENDS PAID C ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	.42	.44	.44	.44	1.74
2015	.44	.463	.463	.463	1.83
2016	.463	.488	.488	.488	1.93
2017	.488	.51	.51	.51	2.02
2018	.51	.515			

BUSINESS: WGL Holdings, Inc. is the parent of Washington Gas Light, a natural gas distributor in Washington, D.C. and adjacent areas of VA and MD to resident'l and comm'l users (1,163,655 meters). Hampshire Gas, a federally regulated sub., operates an underground gas-storage facility in WV. Non-regulated subs.: Wash. Gas Energy Svcs. sells and delivers nat. gas and provides energy-related products in the D.C. metro area; Wash. Gas Energy Sys. designs/installs comm'l heating, ventilating, and air cond. systems. BlackRock owns 10.8% of common stock; Vanguard, 9.2%; Off./dir. less than 1% (1/18 proxy). Chrmn. & CEO: Terry D. McCallister. Inc.: D.C. and VA. Addr.: 101 Const. Ave., N.W., Washington, D.C. 20080. Tel.: 202-624-6410. Internet: www.wglholdings.com.

The acquisition of WGL Holdings by AltaGas Ltd. is progressing nicely and appears on pace to close in mid-2018. To that end, the share price continues to hover right around the tender offer price of $88.25 in cash. As a recap, this price point represents an almost 28% premium from the level WGL was trading at on November 28, 2016, the day prior to the announcement of the takeover. The stock had been trading at a discount from the purchase price for some time, which likely reflected the possibility that the deal could be derailed, given the lengthy time to completion. At this point, the equity is no longer trading on earnings, and as a result, we have suspended the Timeliness rank of these shares until the purchase is finalized. If for some reason the transaction is not completed, we would expect WGL shares to fall back toward preannouncement levels. In May, 96.22% of the voting shares approved the acquisition. More recently, the Maryland Public Service Commission passed the $4.5 billion merger. Finally, AltaGas and WGL Holdings announced a settlement agreement with key stakeholders in Washington, DC. Assuming all parties are on board and any final regulatory hurdles are cleared, the deal may well close in the middle of this year. Investors should note, however, that the merger was anticipated to be completed in the March quarter.

Meantime, the company posted better-than-expected second-quarter financial results. To that end, the top line advanced 5.3% on a year-over-year basis, to $886.4 million. This reflected an impressive 12.3% rise in utility volumes partially offset by a 3.3% downturn in nonutility operations. On the margin front, cost of goods sold increased 620 basis points as a percentage of the top line. Alternatively, operating expenses fell 470 basis points. On balance, WGL's March-quarter earnings increased 13.4%, to $2.12 a share. This was markedly above our call of $1.95. As a result, we have raised our outlook for fiscal 2018 by $0.15, to $4.15 a share.

Risk-averse accounts may wish to lock in gains now and redeploy capital elsewhere, rather than to wait for the deal to close.

Bryan J. Fong *June 1, 2018*

(A) Fiscal years end Sept. 30th.
(B) Based on diluted shares. Excludes nonrecurring losses: '02, (34¢); '07, (4¢); '08, (14¢) discontinued operations: '06, (15¢). Qtly egs. may not sum to total, due to change in shares outstanding. Next earnings report due late July.
(C) Dividends historically paid early February, May, August, and November. ■ Dividend reinvestment plan available.
(D) Includes deferred charges and intangibles. '17: $868.1 million, $16.95/sh.
(E) In millions.

Company's Financial Strength	A
Stock's Price Stability	85
Price Growth Persistence	55
Earnings Predictability	75

WATER UTILITY INDUSTRY

The Water Utility Industry consists of eight investor-owned utilities that are mostly regulated by state authorities.

Consolidation continues to occur at a slow, but steady pace.

Regulation continues to be one of the strengths of this sector. Unlike the electric and gas utility sectors, there is less confrontation among regulators and water utilities.

Over the past five years, the performance from the eight primary stocks in the group has been excellent. Indeed, the typical water equity has outperformed the broader market averages by a wide margin. In the fourth quarter of 2019, this was not the case, however.

Due in part to three cuts by the Federal Reserve, short-term rates have declined. Still, on a comparable basis, they seem more attractive than water utility stocks, which carry an average yield of only about 2.0%.

Based on many key indicators, the valuation of this group is close to a historical high.

Finally, even though several equities in the Water Utility Industry are ranked 1 (Highest) for year-ahead relative price performance, almost all have substantially less than average prospects over the next 18-month- and three- to five-year periods. Most equities here are already trading well within their estimated long-term Target Price Range.

Is The Rally Over?

For the most part, water utility stocks turned in another excellent performance in 2019. This has pretty much been the norm over the past decade. The group was once bought by investors for its high dividend yield, good annual payout prospects, and reliable earnings stream. Considered a conservative vehicle, investors were willing to forgo appreciation potential in return for certainty. The price performance has been so strong that the average yield is now lower than the average stock in the *Value Line* universe. Over the past few years, Wall Street questioned several times whether the rally here could continue. Was the last quarter the beginning of the end? Indeed, these stocks didn't fare well when compared to the broader market averages.

Industry Fundamentals

The water industry in the United States is extremely fragmented. Most water service is provided by authorities that are controlled by municipal or state agencies. There are currently, tens of thousands of these entities in operation. Consolidation has been accelerating as smaller districts are merging with larger ones. *American Water Works* and *Aqua America* are two examples of growth through acquisitions. In addition to increasing the size of their rate base (on which they earn a return), these firms have been able to achieve substantial economies of scale as there are many cost redundancies.

A construction boom is also underway. In the past, insufficient investment was made in maintaining the nation's pipelines and waste water facilities. The average age of a pipe in the United States is well over 50 years, with some assets being much older. Water utilities have been addressing the problem by increasing their capital budgets meaningfully. A good percentage of the outlays are being targeted at replacing older pipes and valves.

INDUSTRY TIMELINESS: 1 (of 95)

Regulation

Investor-owned utilities are overseen by state regulators. In return for permitting a company to have a monopoly, authorities are allowed to determine what rate of return can be made on investments. Both regulators and companies have had a constructive relationship in determining the best way to improve the country's water system. By comparison, other regulated areas, such as electric and natural gas, relations have been less than cordial. For example, natural gas utilities are trying to expand their pipelines to increase the use of the low-priced commodity. However, there has been push back here due to cost and environmental concerns.

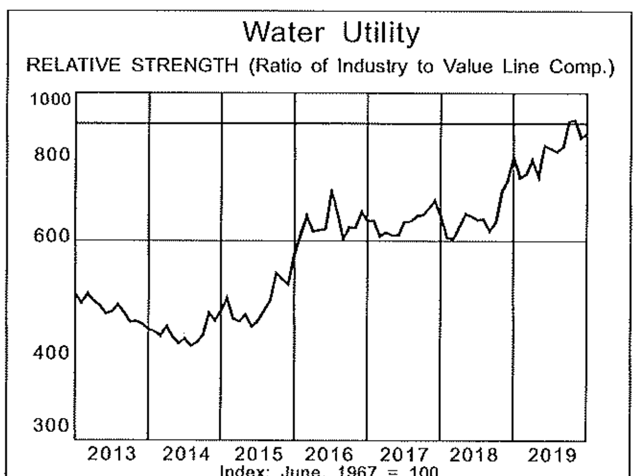
Liquid Gold?

As the world's population continues to grow, so will the demand for potable water. Due to insufficient supply in certain regions, some experts are calling water the next hot commodity. This could very well be true, but we do not know. For certain, a severe supply/demand imbalance is getting worse. In any case, the regulated water sector would not benefit, as these companies' earnings are capped (with the partial exception of *Consolidated Water*). Hence, the allowed rate of return will be set at a reasonable level. Excessive profits generated from operations would be returned to ratepayers in the form of lower water bills.

Conclusion

Despite the many positives of this group, the premium that investors have to pay to own a water stock is high based on most metrics. Several stand out for year-ahead performance. However, potential returns over the next 18 months and through 2022-2024 are subpar. As always, we recommend that subscribers carefully read each individual report before investing to have a better understanding of each company's specific risk profile.

James A. Flood



AMER. STATES WATER NYSE-AWR

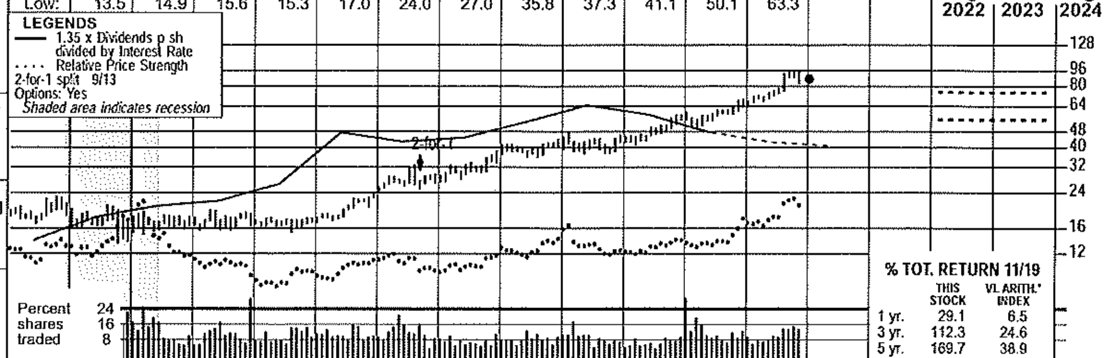
RECENT PRICE 87.33 | P/E RATIO 41.0 (Trailing: 39.7 Median: 21.0) | RELATIVE P/E RATIO 2.23 | DIV'D YLD 1.4% | VALUE LINE

TIMELINESS 1 Raised 8/9/19
SAFETY 2 Raised 7/20/12
TECHNICAL 2 Lowered 12/20/19
BETA .65 (1.00 = Market)

High:	21.0	19.4	19.8	18.2	24.1	33.1	38.7	44.1	47.2	58.4	69.6	96.0
Low:	13.5	14.9	15.6	15.3	17.0	24.0	27.0	35.8	37.3	41.1	50.1	63.3

Target Price Range 2022 | 2023 | 2024

LEGENDS
— 1.35 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 9/13
Options: Yes
Shaded area indicates recession



18-Month Target Price Range
Low-High Midpoint (% to Mid)
$68-$97 $83 (-5%)

2022-24 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(-15%)	-2%
Low	55	(-35%)	-8%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	138	139	149
to Sell	105	109	124
Hld's(000)	26624	26893	27173

Percent shares traded 24 16 8

% TOT. RETURN 11/19

	THIS STOCK	VL ARITH.* INDEX
1 yr.	29.1	6.5
3 yr.	112.3	24.6
5 yr.	169.7	38.9

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
6.99	6.81	7.03	7.88	8.75	9.21	9.74	10.71	11.12	12.12	12.19	12.17	12.56	11.92	12.01	11.88	***12.85***	***13.10***	Revenues per sh	***15.75***
1.04	1.11	1.32	1.45	1.65	1.69	1.70	2.11	2.13	2.48	2.65	2.67	2.81	2.70	2.96	2.84	***3.10***	***3.25***	"Cash Flow" per sh	***4.00***
.39	.53	.66	.67	.81	.78	.81	1.11	1.12	1.41	1.61	1.57	1.61	1.62	1.88	1.72	***2.15***	***2.20***	Earnings per sh A	***2.75***
.44	.44	.45	.46	.48	.50	.51	.52	.55	.64	.76	.83	.87	.91	.99	1.06	1.16	***1.26***	Div'd Decl'd per sh B■	***1.70***
1.88	2.51	2.12	1.95	1.45	2.23	2.09	2.12	2.13	1.77	2.52	1.89	2.39	3.55	3.08	3.44	***3.95***	***3.50***	Cap'l Spending per sh	***3.25***
6.98	7.51	7.86	8.32	8.77	8.97	9.70	10.13	10.84	11.80	12.72	13.24	12.77	13.52	14.45	15.19	***16.10***	***17.00***	Book Value per sh D	***19.35***
30.42	33.50	33.60	34.10	34.46	34.60	37.06	37.26	37.70	38.53	38.72	38.29	36.50	36.57	36.68	36.76	***36.90***	***37.00***	Common Shs Outst'g C	***37.50***
31.9	23.2	21.9	27.7	24.0	22.6	21.2	15.7	15.4	14.3	17.2	20.1	24.6	25.6	25.7	34.0	*Bold figures are*	*Value Line*	Avg Ann'l P/E Ratio	***23.5***
1.82	1.23	1.17	1.50	1.27	1.36	1.41	1.00	.97	.91	.97	1.06	1.24	1.34	1.29	1.83	*estimates*		Relative P/E Ratio	***1.30***
3.5%	3.6%	3.1%	2.5%	2.5%	2.9%	2.9%	3.0%	3.2%	3.1%	2.7%	2.6%	2.2%	2.2%	2.0%	1.8%			Avg Ann'l Div'd Yield	***2.6%***
						361.0	398.9	419.3	466.9	472.1	465.8	458.6	436.1	440.6	436.8	***475***	***485***	Revenues ($mill)	***590***
						29.5	41.4	42.0	54.1	62.7	61.1	60.5	59.7	69.4	63.9	***80.0***	***82.0***	Net Profit ($mill)	***105***
						38.9%	43.2%	41.7%	39.9%	36.3%	38.4%	38.4%	36.8%	36.0%	22.0%	***23.0%***	***23.0%***	Income Tax Rate	***23.0%***
						3.2%	5.8%	2.0%	2.5%	--	--	--	--	2.5%	--	***Nil***	***1.0%***	AFUDC % to Net Profit	***1.0%***
						45.9%	44.3%	45.4%	42.2%	39.8%	39.1%	41.1%	39.4%	38.0%	40.5%	***44.0%***	***44.5%***	Long-Term Debt Ratio	***46.0%***
						54.1%	55.7%	54.6%	57.8%	60.2%	60.9%	58.9%	60.6%	62.0%	59.5%	***56.0%***	***55.5%***	Common Equity Ratio	***54.0%***
						665.0	677.4	749.1	787.0	818.4	832.6	791.5	815.3	854.9	938.4	***1070***	***1130***	Total Capital ($mill)	***1350***
						866.4	855.0	896.5	917.8	981.5	1003.5	1060.8	1150.9	1205.0	1296.3	***1390***	***1475***	Net Plant ($mill)	***1650***
						5.9%	7.6%	7.1%	8.3%	8.9%	8.6%	9.0%	8.6%	9.3%	7.9%	***8.5%***	***8.5%***	Return on Total Cap'l	***9.0%***
						8.2%	11.0%	10.3%	11.9%	12.7%	12.0%	13.0%	12.1%	13.1%	11.4%	***13.5%***	***13.0%***	Return on Shr. Equity	***14.0%***
						8.2%	11.0%	10.3%	11.9%	12.7%	12.0%	13.0%	12.1%	13.1%	11.4%	***13.5%***	***13.0%***	Return on Com Equity	***14.0%***
						3.2%	5.8%	5.3%	6.6%	6.8%	5.7%	6.0%	5.3%	6.2%	4.5%	***6.0%***	***6.0%***	Retained to Com Eq	***5.5%***
						61%	47%	49%	45%	47%	53%	54%	56%	52%	61%	***54%***	***57%***	All Div'ds to Net Prof	***62%***

CAPITAL STRUCTURE as of 9/30/19
Total Debt $475.3 mill. Due in 5 Yrs $100.7 mill.
LT Debt $475.0 mill. LT Interest $24.0 mill.
(45% of Cap'l)

Leases, Uncapitalized: Annual rentals $2.6 mill.
Pension Assets-12/18 $162.5 mill.
Oblig. $196.1 mill.

Pfd Stock None

Common Stock 36,839,301 shs.
as of 11/1/19

MARKET CAP: $3.2 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2017	2018	9/30/19
Cash Assets	.2	7.1	10.4
Accts Receivable	26.1	23.4	28.1
Other	129.2	101.0	94.0
Current Assets	155.5	131.5	132.5
Accts Payable	51.0	59.5	59.8
Debt Due	59.3	40.3	.3
Other	46.4	46.8	59.7
Current Liab.	156.7	146.6	119.8

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '22-'24
Revenues	3.5%	--	4.5%
"Cash Flow"	6.0%	3.0%	6.0%
Earnings	9.0%	4.5%	8.0%
Dividends	7.5%	9.0%	9.5%
Book Value	5.0%	4.0%	5.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2016	93.5	112.0	123.8	106.8	436.1
2017	98.8	113.2	124.4	104.2	440.6
2018	94.7	106.9	124.2	111.0	436.8
2019	101.7	124.6	134.5	***114.2***	***475***
2020	***105***	***125***	***140***	***115***	***485***

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2016	.28	.45	.59	.30	1.62
2017	.34	.62	.57	.35	1.88
2018	.29	.44	.62	.37	1.72
2019	.35	.72	.76	***.32***	***2.15***
2020	***.38***	***.67***	***.70***	***.45***	***2.20***

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.224	.224	.224	.242	.91
2017	.242	.242	.255	.255	.99
2018	.255	.255	.275	.275	1.06
2019	.275	.275	.305	.305	1.16
2020					

BUSINESS: American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Co., it supplies water to 259,919 customers in 70 cities in 10 counties. Service areas include the metropolitan areas of Los Angeles and Orange Counties. The company also provides electricity to 24,353 customers in Big Bear Lake and San Bernardino Cnty. Provides water & wastewater services to U.S. military bases through its ASUS sub. Sold Chaparral City Wtr. of AZ. (6/11). Employs about 815. BlackRock, Inc. owns 15.1% of out. shares; Vanguard, 11.5%; off. & dir. 1.2%. (4/19 Proxy). Chairman: Lloyd Ross. Pres. & CEO: Robert Sprowls. Inc: CA. Addr.: 630 East Foothill Blvd., San Dimas, CA 91773. Tel: 909-394-3600. Internet: www.aswater.com.

Shares of American States Water have not participated in the recent market rally. In the last quarter of 2019, the S&P 500 Index rallied almost 10%. Over that same time span, the value of AWR has actually declined approximately 3%, an underperformance of more than 1200 basis points. We think profit taking and sector rotation by institutional investors were at least partially responsible for the poor showing.

Earnings in 2020 should top last year's impressive figure. Even though 2019 likely ended on a down note, American States' share earnings probably climbed to $2.15, a 25% increase above the previous year's weak number. Rate relief and cost cutting were most likely the primary reasons for the strong comparison. These factors will probably have less of an impact on 2020's bottom line, but earnings per share could still well rise 2% to $2.20, as the unregulated operations' gain in importance (more below).

Finances are solid. The company remains a distance third in terms of size in the water industry (American Water Works and Aqua America are the two giants). Nevertheless, thanks to a balance sheet that doesn't have a large amount of debt, American Water is one of the two utilities in this nine-member group that carries a Financial Strength rating as high as an A.

Nonutility operations are generating a steady amount of income. The company's ASUS subsidiary provides water services to military bases via 50-year fixed-priced contracts. As more military installations privatize their water systems, we expect ASUS to raise its presence in this sector, by being successful in the competitive bidding process. This business should account for between 20% to 30% of total income by early next decade.

These shares are only for short-term investors. AWR carries a 1 (Highest) rank for year-ahead relative performance. Over the next 18-month period, our quantitative system believes the stock will actually decrease in value, however. In addition, even with the recent price decline, the equity is trading above our projected 2022-2024 Target Price Range. Finally, the dividend yield is subpar.

James A. Flood *January 10, 2020*

(A) Primary earnings. Excludes nonrecurring gains/(losses): '04, 7¢; '05, 13¢; '06, 3¢; '08, (14¢); '10, (23¢); '11, 10¢. Next earnings report due mid-February.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions, adjusted for split.
(D) Includes intangibles. As of 6/30/19; $1.1 million/$0.03 a share.

Company's Financial Strength	A
Stock's Price Stability	85
Price Growth Persistence	95
Earnings Predictability	90

AMERICAN WATER NYSE-AWK

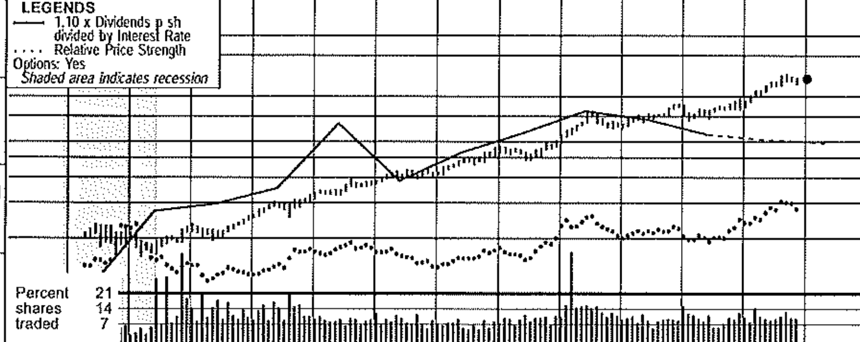
RECENT PRICE 123.05 | P/E RATIO 33.3 (Trailing: 35.1, Median: 19.0) | RELATIVE P/E RATIO 1.81 | DIV'D YLD 1.7% | VALUE LINE

TIMELINESS 1 Raised 4/5/19
SAFETY 3 New 7/25/08
TECHNICAL 3 Lowered 12/13/19
BETA .55 (1.00 = Market)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
High:	23.7	23.0	25.8	32.8	39.4	45.1	56.2	61.2	85.2	92.4	98.2	129.9
Low:	16.5	16.2	19.4	25.2	31.3	37.0	41.1	48.4	58.9	70.0	76.0	88.0

Target Price Range 2022 | 2023 | 2024

LEGENDS
—— 1.10 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: Yes
Shaded area indicates recession



18-Month Target Price Range
Low-High Midpoint (% to Mid)
$105-$146 $126 (0%)

2022-24 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	120	(Nil)	2%
Low	80	(-35%)	-7%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	364	360	385
to Sell	325	331	322
Hld's(000)	155942	155051	153329

Percent shares traded 21 / 14 / 7

% TOT. RETURN 11/19

	THIS STOCK	VL ARITH.* INDEX
1 yr.	29.1	6.5
3 yr.	77.2	24.6
5 yr.	153.0	38.9

2003	2004	2005	2006E	2007E	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
--	--	--	13.08	13.84	14.61	13.98	15.49	15.18	16.25	16.28	16.78	17.72	18.54	18.81	19.04	*20.05*	*20.95*	Revenues per sh	*23.80*
--	--	--	.65	d.47	2.87	2.89	3.56	3.73	4.27	4.36	4.75	5.13	5.26	5.14	6.15	*6.75*	*7.10*	"Cash Flow" per sh	*8.30*
--	--	--	d.97	d2.14	1.10	1.25	1.53	1.72	2.11	2.06	2.39	2.64	2.62	2.38	3.15	*3.60*	*3.90*	Earnings per sh A	*4.70*
--	--	--	--	--	.40	.82	.86	.90	1.21	.84	1.21	1.33	1.47	1.62	1.78	1.96	*2.12*	Div'd Decl'd per sh B■	*2.75*
--	--	--	4.31	4.74	6.31	4.50	4.38	5.27	5.25	5.50	5.33	6.51	7.36	8.04	8.78	*8.70*	*9.20*	Cap'l Spending per sh	*9.00*
--	--	--	23.86	28.39	25.64	22.91	23.59	24.11	25.11	26.52	27.39	28.25	29.24	30.13	32.42	*34.40*	*36.35*	Book Value per sh D	*41.25*
--	--	--	160.00	160.00	160.00	174.63	175.00	175.66	176.99	178.25	179.46	178.28	178.10	178.44	180.68	*181.00*	*182.00*	Common Shs Outst'g C	*189.00*
--	--	--	--	--	18.9	15.6	14.6	16.8	16.7	19.9	20.0	20.5	27.7	33.8	27.3	*Bold figures are*		Avg Ann'l P/E Ratio	*21.5*
--	--	--	--	--	1.14	1.04	.93	1.05	1.06	1.12	1.05	1.03	1.45	1.70	1.47	*Value Line*		Relative P/E Ratio	*1.20*
--	--	--	--	--	1.9%	4.2%	3.8%	3.1%	3.4%	2.0%	2.5%	2.5%	2.0%	2.0%	2.1%	*estimates*		Avg Ann'l Div'd Yield	*2.8%*

CAPITAL STRUCTURE as of 9/30/19
Total Debt $9143.0 mil. Due in 5 Yrs $1555.0 mil.
LT Debt $8640.0 mil. LT Interest $370.0 mil.
(59% of Cap'l)

Leases, Uncapitalized: Annual rentals $17.0 mill.
Pension Assets12/18 $1499.0 mill
Oblig. $1892.0 mill.
Pfd Stock $7.0 mill. Pfd Div'd $.4 mill

Common Stock 180,776,169 shares
as of 10/24/19

MARKET CAP: $22.2 billion (Large Cap)

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		22-24
2440.7	2710.7	2666.2	2876.9	2901.9	3011.3	3159.0	3302.0	3357.0	3440.0	*3630*	*3810*	Revenues ($mill)	*4500*
209.9	267.8	304.9	374.3	369.3	429.8	476.0	468.0	426.0	567.0	*650*	*700*	Net Profit ($mill)	*890*
37.9%	40.4%	39.5%	40.7%	39.1%	39.4%	39.1%	39.2%	53.3%	28.2%	*21.0%*	*21.0%*	Income Tax Rate	*21.0%*
--	--	--	6.2%	5.1%	--	--	--	5.1%	4.0%	*5.0%*	*5.0%*	AFUDC % to Net Profit	*5.0%*
56.9%	56.8%	55.7%	53.9%	52.4%	52.4%	53.7%	52.4%	54.7%	56.3%	*58.0%*	*58.0%*	Long-Term Debt Ratio	*59.0%*
43.1%	43.2%	44.2%	46.1%	47.6%	47.4%	46.2%	47.5%	45.3%	43.6%	*42.0%*	*42.0%*	Common Equity Ratio	*41.0%*
9289.0	9561.3	9580.3	9635.5	9940.7	10364	10911	10967	11875	13433	*14900*	*15700*	Total Capital ($mill)	*18800*
10524	11059	11021	11739	12391	12900	13933	14992	16246	17409	*18350*	*19300*	Net Plant ($mill)	*22500*
3.8%	4.4%	4.8%	5.4%	5.1%	5.5%	5.7%	5.6%	4.9%	5.4%	*5.5%*	*5.5%*	Return on Total Cap'l	*6.0%*
5.2%	6.5%	7.2%	8.4%	7.8%	8.7%	9.4%	9.0%	7.9%	9.7%	*10.5%*	*10.5%*	Return on Shr. Equity	*11.5%*
5.2%	6.5%	7.2%	8.4%	7.8%	8.7%	9.4%	9.0%	7.9%	9.7%	*10.5%*	*10.5%*	Return on Com Equity	*11.5%*
1.8%	2.8%	3.5%	3.6%	4.7%	4.3%	4.7%	4.0%	2.5%	4.2%	*5.0%*	*5.0%*	Retained to Com Eq	*5.0%*
65%	56%	52%	57%	40%	50%	50%	56%	68%	56%	*54%*	*54%*	All Div'ds to Net Prof	*59%*

CURRENT POSITION ($MILL.)	2017	2018	9/30/19
Cash Assets	82	158	116
Accts Receivable	272	301	335
Other	366	322	348
Current Assets	720	781	799
Accts Payable	195	175	149
Debt Due	1227	1035	503
Other	903	884	836
Current Liab.	2325	2094	1488

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '22-'24
Revenues	3.0%	3.5%	4.0%
"Cash Flow"	18.5%	6.0%	7.0%
Earnings	--	6.5%	9.5%
Dividends	--	10.5%	9.0%
Book Value	1.5%	4.0%	5.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2016	743.0	827.0	930.0	802.0	3302.0
2017	756.0	844.0	936.0	821.0	3357.0
2018	761.0	853.0	976.0	850.0	3440.0
2019	813.0	882.0	1013.0	*922*	*3630*
2020	*850*	*930*	*1080*	*950*	*3810*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2016	.46	.77	.83	.57	2.62
2017	.52	.73	1.12	.01	2.38
2018	.59	.91	1.03	.62	3.15
2019	.62	.94	1.33	*.71*	*3.60*
2020	*.65*	*1.00*	*1.45*	*.80*	*3.90*

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.34	.375	.375	.375	1.47
2017	.375	.415	.415	.415	1.62
2018	.415	.455	.455	.455	1.78
2019	.455	.50	.50	.50	1.96
2020					

BUSINESS: American Water Works Company, Inc. is the largest investor-owned water and wastewater utility in the U.S., providing services to more than 14 million people in 46 states and Ontario, Canada. Nonregulated business assists municipalities and military bases with the maintenance and upkeep as well. Regulated operations made up 87% of 2018 revenues. New Jersey is its largest market accounting for 24% of regulated revenues; Pennsylvania, 23%. Has 7,100 employees. The Vanguard Grp. owns 11.0% of outstanding shares; BlackRock, Inc., 7.9%; officers & directors, less than 1.0%. (3/19 Proxy). President & CEO: Susan N. Story. Chairman: George MacKenzie. Address: 1 Water Street, Camden, NJ 08102. Tel.: 856-346-8200. Internet: www.amwater.com.

American Water Works enters the new decade as the most dominant member in this group. By any measure, it is the largest investor-owned water utility in the country. With its acquisition strategy and large spending budget (more below), the company should continue to grow its rate base substantially for the foreseeable future.

The consolidation of the water industry is providing the company with plenty of opportunities. The U.S. water sector is composed of thousands of small, inefficient water districts that are mostly run by local municipalities. As more capital is required to upgrade antiquated pipelines and wastewater facilities, many of these districts are looking to be acquired by larger entities. American has been buying up some of these districts every year. Its bottom line benefits from this process because economies of scale are very achievable in this space.

The projected construction program is massive. At the company's recent Investor Day, management announced that it planned on spending about $1.8 billion this year and about $21 billion over the next 10 years on expanding and improving its infrastructure. Relations with the different state regulators will remain very important as these authorities will decide what kind of return can be made on these investments. Based on the historical record, the regulatory climate should remain constructive.

Finances will likely just remain average, though. Over the past decade or so, the water utility has relied almost exclusively on debt and internally generated cash to fund the building program. With the value of the equity increasing more than sixfold during the period, the company could do well by increasing its equity base. Until this happens, we don't expect the balance sheet to stand out.

Shares of American Water Works hold our Highest (1) rank for Timeliness. Like most equities in the water utility industry, however, AWK is highly overvalued by several key financial measures. Our 18-month quantitative model also indicates that the stock will not do well. Too, total return potential to 2022-2024 is very unattractive.

James A. Flood *January 10, 2020*

(A) Diluted earnings. Excludes nonrecur. losses: '08, $4.62; '09, $2.63; '11, $0.07. Disc. oper.: '06, ($0.04); '11, $0.03; '12, ($0.10); '13,($0.01). GAAP used as of 2014. Next earnings report due mid-February. Quarterly earnings do not sum in '16 due to rounding.
(B) Dividends paid in March, June, September, and December. ■ Div. reinvestment available.
(C) In millions. (D) Includes intangibles. On 9/30/19: $1.650 billion, $9.13/share.
(E) Pro forma numbers for '06 & '07.

Company's Financial Strength	B+
Stock's Price Stability	100
Price Growth Persistence	85
Earnings Predictability	80

AQUA AMERICA NYSE-WTR

RECENT PRICE 47.08 | P/E RATIO 35.9 (Trailing: 67.3; Median: 22.0) | RELATIVE P/E RATIO 1.95 | DIV'D YLD 2.1% | VALUE LINE

TIMELINESS	1	Raised 12/20/19
SAFETY	2	Raised 4/20/12
TECHNICAL	3	Lowered 12/20/19

BETA .65 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$34-$52	$43 (-10%)

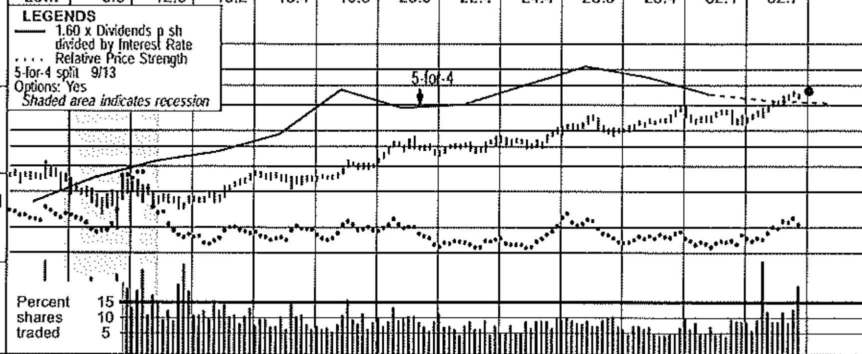
2022-24 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	55	(+15%)	6%
Low	40	(-15%)	-1%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	238	280	248
to Sell	184	167	210
Hld's(000)	103658	140358	143792

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
High:	17.6	17.2	18.4	19.0	21.5	28.1	28.2	31.1	35.8	39.6	39.4	47.1
Low:	9.8	12.3	13.2	15.4	16.8	20.6	22.4	24.4	28.0	29.4	32.1	32.7



Target Price Range 2022 | 2023 | 2024

% TOT. RETURN 11/19

	THIS STOCK	VL ARITH.* INDEX
1 yr.	32.0	6.5
3 yr.	59.9	24.6
5 yr.	87.8	38.9

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
2.38	2.78	3.08	3.23	3.61	3.71	3.93	4.21	4.10	4.32	4.32	4.37	4.61	4.62	4.56	4.71	*4.10*	*4.30*	Revenues per sh	*5.70*
.77	.87	.97	1.01	1.10	1.14	1.29	1.42	1.45	1.51	1.82	1.89	1.87	2.07	2.12	1.90	*1.80*	*2.15*	"Cash Flow" per sh	*2.85*
.46	.51	.57	.56	.57	.58	.62	.72	.83	.87	1.16	1.20	1.14	1.32	1.35	1.08	*1.05*	*1.40*	Earnings per sh A	*2.00*
.28	.29	.32	.35	.38	.41	.44	.47	.50	.54	.58	.63	.69	.74	.79	.85	.91	*.96*	Div'd Decl'd per sh B■	*1.25*
1.06	1.23	1.47	1.64	1.43	1.58	1.66	1.89	1.90	1.98	1.73	1.84	2.07	2.16	2.69	2.78	*2.40*	*2.50*	Cap'l Spending per sh	*2.75*
4.27	4.71	5.04	5.57	5.85	6.26	6.50	6.81	7.21	7.90	8.63	9.27	9.78	10.43	11.02	11.28	*18.00*	*18.50*	Book Value per sh	*18.40*
154.31	158.97	161.21	165.41	166.75	169.21	170.61	172.46	173.60	175.43	177.93	178.59	176.54	177.39	177.71	178.09	*216.00*	*217.00*	Common Shs Outst'g C	*220.00*
24.5	25.1	31.8	34.7	32.0	24.9	23.1	21.1	21.3	21.9	21.2	20.8	23.5	23.9	24.7	32.6	*Bold figures are*		Avg Ann'l P/E Ratio	*24.0*
1.40	1.33	1.69	1.87	1.70	1.50	1.54	1.34	1.34	1.39	1.19	1.09	1.18	1.25	1.24	1.76	*Value Line*		Relative P/E Ratio	*1.35*
2.5%	2.3%	1.8%	1.8%	2.1%	2.8%	3.1%	3.1%	2.8%	2.8%	2.4%	2.5%	2.6%	2.3%	2.4%	2.4%	*estimates*		Avg Ann'l Div'd Yield	*2.6%*
						670.5	726.1	712.0	757.8	768.6	779.9	814.2	819.9	809.5	838.1	*890*	*930*	Revenues ($mill)	*1250*
						104.4	124.0	144.8	153.1	205.0	213.9	201.8	234.2	239.7	192.0	*230*	*305*	Net Profit ($mill)	*440*
						39.4%	39.2%	32.9%	39.0%	10.0%	10.5%	6.9%	8.2%	6.6%	6.6%	*NMF*	*5.0%*	Income Tax Rate	*7.0%*
						--	--	--	--	1.1%	2.4%	3.1%	3.8%	6.3%	6.8%	*12.5%*	*10.0%*	AFUDC % to Net Profit	*10.0%*
						55.6%	56.6%	52.7%	52.7%	48.9%	48.5%	50.3%	48.4%	50.6%	54.4%	*42.5%*	*43.5%*	Long-Term Debt Ratio	*53.0%*
						44.4%	43.4%	47.3%	47.3%	51.1%	51.5%	49.7%	51.6%	49.4%	45.6%	*57.5%*	*56.5%*	Common Equity Ratio	*47.0%*
						2495.5	2706.2	2646.8	2929.7	3003.6	3216.0	3469.5	3587.7	3965.4	4407.8	*6800*	*7100*	Total Capital ($mill)	*7600*
						3227.3	3469.3	3612.9	3936.2	4167.3	4402.0	4688.9	5001.6	5399.9	5930.3	*6250*	*6525*	Net Plant ($mill)	*7600*
						5.6%	5.9%	6.9%	6.6%	8.0%	7.8%	6.9%	7.6%	7.1%	5.5%	*5.0%*	*5.0%*	Return on Total Cap'l	*7.0%*
						9.4%	10.6%	11.6%	11.0%	13.4%	12.9%	11.7%	12.7%	12.2%	9.6%	*6.0%*	*8.5%*	Return on Shr. Equity	*11.0%*
						9.4%	10.6%	11.6%	11.0%	13.4%	12.9%	11.7%	12.7%	12.2%	9.6%	*6.0%*	*8.5%*	Return on Com Equity	*11.0%*
						2.7%	3.7%	4.6%	4.3%	6.7%	6.1%	4.7%	5.6%	5.1%	2.1%	*4.0%*	*3.0%*	Retained to Com Eq	*4.0%*
						72%	65%	60%	61%	50%	52%	60%	56%	59%	79%	*87%*	*63%*	All Div'ds to Net Prof	*63%*

CAPITAL STRUCTURE as of 9/30/19
Total Debt $3086.4 mill. Due in 5 Yrs $698.8 mill.
LT Debt $2898.3 mill. LT Interest $122.0 mill.
(43% of Cap'l)

Pension Assets-12/18 $239.0 mill. Oblig. $282.0 mill.

Pfd Stock None

Common Stock 215,840,774 shares as of 10/23/19

MARKET CAP: $10.2 billion (Large Cap)

CURRENT POSITION ($MILL.)	2017	2018	9/30/19
Cash Assets	4.2	3.6	2030.6
Receivables	98.6	101.2	117.0
Inventory (AvgCst)	14.4	15.8	17.0
Other	14.0	26.6	14.3
Current Assets	131.2	147.2	2178.9
Accts Payable	59.2	77.3	57.6
Debt Due	117.4	160.0	188.1
Other	107.9	161.7	106.4
Current Liab.	284.5	399.0	352.1

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '22-'24
Revenues	3.0%	1.5%	3.5%
"Cash Flow"	6.5%	5.0%	6.5%
Earnings	8.0%	5.5%	8.0%
Dividends	7.5%	8.0%	8.0%
Book Value	6.5%	6.5%	9.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	192.6	203.9	226.6	196.8	819.9
2017	187.8	203.4	215.0	203.3	809.5
2018	194.3	211.9	226.2	205.7	838.1
2019	201.1	218.9	243.6	*226.4*	*890*
2020	*215*	*235*	*250*	*230*	*930*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.29	.34	.41	.28	1.32
2017	.28	.34	.43	.30	1.35
2018	.29	.37	.44	d.02	1.08
2019	.09	.25	.38	*.33*	*1.05*
2020	*.25*	*.35*	*.47*	*.33*	*1.40*

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.178	.178	.1913	.1913	.74
2017	.1913	.1913	.2047	.2047	.79
2018	.2047	.2047	.219	.219	.85
2019	.219	.219	.2343	.2343	.91
2020					

BUSINESS: Aqua America, Inc. is the holding company for water and wastewater utilities that serve approximately three million residents in Pennsylvania (responsible for 53% of 2018 revenues), Ohio, Texas, Illinois, North Carolina, New Jersey, Indiana, and Virginia. Has 1,570 employees. Acquired AquaSource, 7/13; North Maine Utilities, 7/15; and others. Water supply revenues 2018: residential, 58%; commercial, 16%; industrial, wastewater & other, 26%. Off. & dir. own less than 1% of the common stock; Vanguard Group, 10.7%; Blackrock, Inc, 9.5%; State Street Capital, 4.9% (3/19 Proxy). President & Chief Executive Officer: Christopher Franklin. Inc.: PA Addr.: 762 West Lancaster Avenue, Bryn Mawr, PA 19010. Tel.: 610-525-1400. Internet: www.aquaamerica.com.

Aqua America is still awaiting final approval of its acquisition of Peoples Gas. The water utility reached an agreement to buy the regulated Pittsburgh-based natural gas company in 2018 for $4.3 billion in cash, and the assumption of $1.4 billion of debt. Because both entities operate in many different states, a host of regulators must provide permission for the transaction to be completed. Currently, our best estimate is that the purchase will close in the early part of this year.

The company will have a new profile. The natural gas distributor has almost 750,000 customers. Though this is in a sector also overseen by state authorities, the gas sector has historically had a much-more adversarial relationship with regulators. In the water segment, both utilities and regulators realize that large amounts of investment are needed to modernize the country's antiquated infrastructure. Cooperation between companies and their overseers has been very constructive. By comparison, in the gas arena, there is much resistance to construction programs such as expanding existing pipelines to meet the needs of a service area.

The balance sheet partially reflects the acquisition. To finance the transaction, a large equity offering was completed last year. More than $1.3 billion was raised in the transaction, which increased shares outstanding by about 20% (37.3 million). Proceed from the sale of tangible equity units also raised approximately $700 million. About $900 million of debt due in 2029 and 2049 was also sold last April. The remaining funds should come from existing credit facilities.

Meanwhile, another rate hike was granted. On October 29th, about $60 million in higher rates went into effect in Pennsylvania. During 2019, New Jersey, North Carolina, and Ohio also increased tariffs.

Only short-term investors should take a look here. By most financial metrics, including the P/E ratio and its yield relative to the average equity, WTR is highly overvalued. It is ranked 1 (Highest) for year-ahead performance, but our 18-month model predicts the stock will post a negative performance. In addition, total return prospects to 2022-2024 are poor.

James A. Flood *January 10, 2020*

(A) Diluted egs. Excl. nonrec. gains: '03, 3¢; '12, 18¢. Excl. gain from disc. operations: '12, 7¢; '13, 9¢; '14, 11¢. May not sum due to rounding. Next earnings report due mid-February.
(B) Dividends historically paid in early March, June, Sept. & Dec. ■ Div'd. reinvestment plan available (5% discount).
(C) In millions, adjusted for stock splits.
(D) Includes intangibles: 9/30/19, $52.7 mill./$0.24 a share.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	75
Earnings Predictability	65

CALIFORNIA WATER NYSE-CWT

RECENT PRICE 51.52 | P/E RATIO 31.0 (Trailing: 37.1 / Median: 22.0) | RELATIVE P/E RATIO 1.68 | DIV'D YLD 1.5% | VALUE LINE

TIMELINESS 2 Raised 10/25/19
SAFETY 3 Lowered 7/27/07
TECHNICAL 3 Lowered 12/27/19
BETA .70 (1.00 = Market)

High:	23.3	24.1	19.8	19.4	19.3	23.4	26.4	26.0	36.8	46.2	49.1	57.5		
Low:	13.8	16.7	16.9	16.7	16.8	18.4	20.3	19.5	22.5	32.4	35.3	44.6		

Target Price Range 2022 | 2023 | 2024

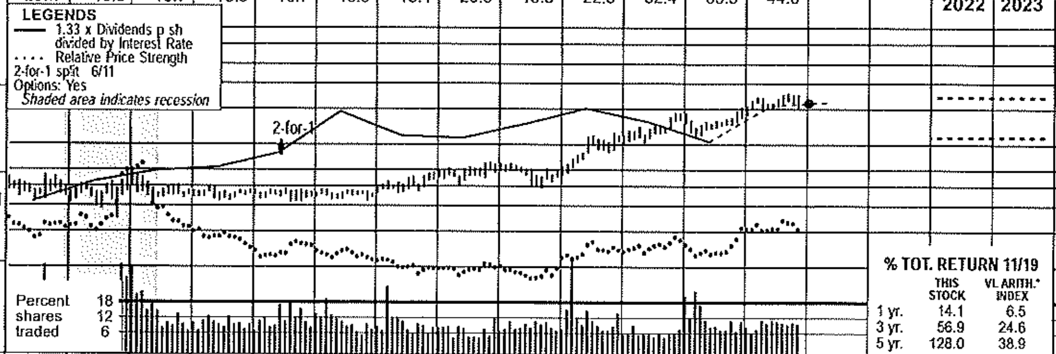
18-Month Target Price Range
Low-High $44-$69 Midpoint (% to Mid) $57 (10%)

2022-24 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	55	(+5%)	3%
Low	35	(-30%)	-7%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	132	120	118
to Sell	81	102	94
Hld's(000)	35698	36947	36133



% TOT. RETURN 11/19

	THIS STOCK	VL ARITH.* INDEX
1 yr.	14.1	6.5
3 yr.	56.9	24.6
5 yr.	128.0	38.9

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
8.18	8.59	8.72	8.10	8.88	9.90	10.82	11.05	12.00	13.34	12.23	12.50	12.29	12.70	13.89	14.53	14.70	14.80	Revenues per sh	15.00
1.26	1.42	1.52	1.36	1.56	1.86	1.93	1.93	2.07	2.32	2.21	2.47	2.22	2.34	3.00	3.11	3.05	3.30	"Cash Flow" per sh	3.50
.61	.73	.74	.67	.75	.95	.98	.91	.86	1.02	1.02	1.19	.94	1.01	1.40	1.36	1.40	1.70	Earnings per sh A	2.00
.56	.57	.57	.58	.58	.59	.59	.60	.62	.63	.64	.65	.67	.69	.72	.75	.79	.82	Div'd Decl'd per sh B ■	1.05
2.19	1.87	2.01	2.14	1.84	2.41	2.66	2.97	2.83	3.04	2.58	2.76	3.69	4.77	5.40	5.65	3.95	4.00	Cap'l Spending per sh	3.65
7.22	7.83	7.90	9.07	9.25	9.72	10.13	10.45	10.76	11.28	12.54	13.11	13.41	13.75	14.44	15.19	15.85	15.70	Book Value per sh C	16.05
33.86	36.73	36.78	41.31	41.33	41.45	41.53	41.67	41.82	41.98	47.74	47.81	47.88	47.97	48.01	48.07	48.25	50.00	Common Shs Outst'g D	53.00
22.1	20.1	24.9	29.2	26.1	19.8	19.7	20.3	21.3	17.9	20.1	19.7	24.8	29.6	26.9	30.3	Bold figures are		Avg Ann'l P/E Ratio	23.0
1.26	1.06	1.33	1.58	1.39	1.19	1.31	1.29	1.34	1.14	1.13	1.04	1.25	1.55	1.35	1.64	Value Line		Relative P/E Ratio	1.25
4.2%	3.9%	3.1%	2.9%	3.0%	3.1%	3.1%	3.2%	3.4%	3.5%	3.1%	2.8%	2.9%	2.3%	1.9%	1.8%	estimates		Avg Ann'l Div'd Yield	2.5%

CAPITAL STRUCTURE as of 9/30/19
Total Debt $967.9 mill. Due in 5 Yrs $430.1 mill.
LT Debt $807.5 mill. LT Interest $40.0 mill.
(Total interest coverage: 4.1x) (53% of Cap'l)

Pension Assets-12/18 $469.7 mill.
Oblig. $639.9 mill.

Pfd Stock None

Common Stock 48,145,000 shs.

MARKET CAP: $2.5 billion (Mid Cap)

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		22-24
449.4	460.4	501.8	560.0	584.1	597.5	588.4	609.4	666.9	698.2	710	740	Revenues ($mill) E	795
40.6	37.7	36.1	42.6	47.3	56.7	45.0	48.7	67.2	65.6	68.0	85.0	Net Profit ($mill)	105
40.3%	39.5%	40.5%	37.5%	30.3%	33.0%	36.0%	35.5%	30.1%	24.5%	21.0%	21.0%	Income Tax Rate	21.0%
7.6%	4.2%	7.6%	8.0%	4.3%	2.7%	4.3%	6.1%	3.5%	3.1%	5.0%	5.0%	AFUDC % to Net Profit	5.0%
47.1%	52.4%	51.7%	47.8%	41.6%	40.1%	44.4%	44.6%	42.7%	49.3%	51.0%	47.0%	Long-Term Debt Ratio	39.5%
52.9%	47.6%	48.3%	52.2%	58.4%	59.9%	55.6%	55.4%	57.3%	50.7%	49.0%	53.0%	Common Equity Ratio	60.5%
794.9	914.7	931.5	908.2	1024.9	1045.9	1154.4	1191.2	1209.3	1440.2	1565	1485	Total Capital ($mill)	1400
1198.1	1294.3	1381.1	1457.1	1515.8	1590.4	1701.8	1859.3	2048.0	2232.7	2300	2385	Net Plant ($mill)	2500
6.5%	5.5%	5.5%	6.3%	6.0%	6.3%	5.2%	5.5%	7.1%	5.9%	5.0%	6.5%	Return on Total Cap'l	8.5%
9.6%	8.6%	8.0%	9.0%	7.9%	9.1%	7.0%	7.4%	9.7%	9.0%	9.0%	11.0%	Return on Shr. Equity	12.5%
9.6%	8.6%	8.0%	9.0%	7.9%	9.1%	7.0%	7.4%	9.7%	9.0%	9.0%	11.0%	Return on Com Equity	12.5%
3.8%	3.0%	2.3%	3.4%	3.4%	4.1%	2.0%	2.4%	4.7%	4.0%	4.0%	5.5%	Retained to Com Eq	6.0%
60%	66%	71%	62%	56%	55%	71%	68%	51%	55%	56%	48%	All Div'ds to Net Prof	53%

CURRENT POSITION ($MILL.)	2017	2018	9/30/19
Cash Assets	94.8	47.2	51.3
Other	133.1	141.5	160.8
Current Assets	227.9	188.7	212.1
Accts Payable	94.0	95.6	108.6
Debt Due	291.0	170.0	160.4
Other	106.0	55.6	64.9
Current Liab.	491.0	321.2	333.9

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '22-'24
Revenues	4.5%	2.0%	1.5%
"Cash Flow"	6.0%	5.0%	3.5%
Earnings	5.0%	5.5%	8.0%
Dividends	2.0%	3.0%	6.5%
Book Value	4.5%	4.5%	2.0%

Cal-endar	QUARTERLY REVENUES ($ mill.)E Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	121.7	152.4	184.3	151.0	609.4
2017	122.1	171.1	211.7	162.0	666.9
2018	134.6	174.9	221.3	167.4	698.2
2019	126.1	179.0	232.5	172.4	710
2020	140	185	237	178	740

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	d.02	.24	.48	.31	1.01
2017	.02	.39	.70	.29	1.40
2018	d.02	.31	.75	.32	1.36
2019	d.16	.35	.88	.33	1.40
2020	.03	.42	.85	.40	1.70

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.1725	.1725	.1725	.1725	.69
2017	.18	.18	.18	.18	.72
2018	.1875	.1875	.1875	.1875	.75
2019	.1975	.1975	.1975	.1975	.79
2020					

BUSINESS: California Water Service Group provides regulated and nonregulated water service to 486,900 customers in 100 communities in the state of California. Accounts for over 94% of total customers. Also operates in Washington, New Mexico, and Hawaii. Main service areas: San Francisco Bay area, Sacramento Valley, Salinas Valley, San Joaquin Valley & parts of Los Angeles. Acquired Rio Grande Corp; West Hawaii Utilities (9/08). Revenue breakdown, '18: residential, 67%; business, 19%; industrial, 5%; public authorities, 5%; other 4%. Off. and dir. own 1% of common stock (4/19 proxy). Has 1,184 employees. Pres. and CEO: Martin A. Kropelnicki. Inc.: DE. Addr.: 1720 North First St., San Jose, CA 95112-4598. Tel.: 408-367-8200. Internet: www.calwatergroup.com.

California Water Service Group's net income rose sharply in the third quarter. Share net of $0.88 increased 17%, year over year, handily topping our $0.79 call. The solid performance was driven largely by higher rates and lower business development expenses, as these positives more than offset increased water production and operating costs. On balance, we think the water provider closed out the year with earnings of $1.40 a share. For 2020, we expect noteworthy share-net expansion, which should be supported by a healthy top-line advance.

The company's outstanding share count is poised to rise. This is due primarily to the recent initiation of a three-year equity program in which California Water will periodically sell shares of common stock at market value. The rate of issuance will depend on respective market conditions, with total gross sales not to exceed $300 million. California Water will likely use net proceeds for general corporate purposes, such as construction and acquisitions, investments, and the redemption of securities.

Long term, investment spending and rate increases are probably on tap. Indeed, management is in the early innings of its extensive capital allocation program. As previously noted, upward of $750 million has been earmarked for infrastructure upgrades, namely improvements to its water transportation systems and treatment plants. To support these initiatives, another settlement agreement was filed in October to address additional matters in its general rate case. To that end, should the Public Utilities Commission approve the agreement, California Water may be able to pass along to customers approximately $600 million-$625 million in project spending in the form of rate hikes.

The issue has been upgraded one notch for Timeliness, to 2 (Above Average), and thus it ought to appeal to near-term subscribers. Further, price upside over the 18 month stretch is worthwhile. But despite the equity's attractive business prospects, those with a 3- to 5-year holding period are better off waiting on the sidelines, as CWT is presently trading near the upper end of our Target Price Range.

Nicholas P. Patrikis *January 10, 2020*

(A) Basic EPS. Excl. nonrecurring gain (loss): '11, 4¢. Next earnings report due early Feb.
(B) Dividends historically paid in late Feb., May, Aug., and Nov. ■ Div'd reinvestment plan available.
(C) Incl. intangible assets. In '18 : $24.7 mill., $0.51/sh.
(D) In millions, adjusted for splits.
(E) Excludes non-reg. rev.

Company's Financial Strength	B++
Stock's Price Stability	80
Price Growth Persistence	60
Earnings Predictability	65

CONNECTICUT WATER NDQ-CTWS

RECENT PRICE 69.96 | P/E RATIO 29.6 (Trailing: 39.8 / Median: 20.0) | RELATIVE P/E RATIO 1.78 | DIV'D YLD 1.9% | VALUE LINE

TIMELINESS – Suspended 3/23/18
SAFETY 3 New 1/18/13
TECHNICAL – Suspended 3/23/18
BETA .50 (1.00 = Market)

18-Month Target Price Range
Low-High Midpoint (% to Mid)
$60-$100 $80 (15%)

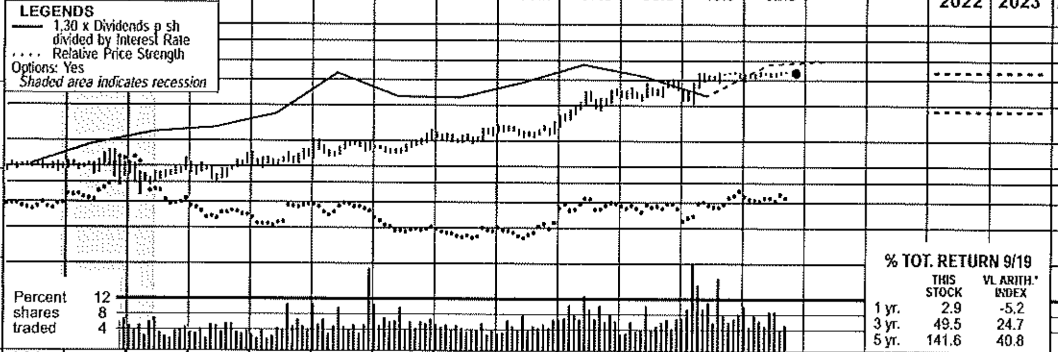
2022-24 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	70	(Nil)	2%
Low	45	(-35%)	-7%

Institutional Decisions

	4Q2018	1Q2019	2Q2019
to Buy	64	51	59
to Sell	48	56	51
Hld's(000)	5908	6165	6481

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
High:	29.0	26.4	27.9	29.1	32.8	36.4	37.5	39.9	58.3	65.0	70.3	70.5
Low:	19.3	17.3	20.0	23.3	26.2	27.8	31.0	33.2	37.5	50.8	48.9	62.8



% TOT. RETURN 9/19

	THIS STOCK	VL ARITH.* INDEX
1 yr.	2.9	-5.2
3 yr.	49.5	24.7
5 yr.	141.6	40.8

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
5.91	6.04	5.81	5.68	7.05	7.24	6.93	7.65	7.93	9.47	8.29	8.45	8.58	8.77	8.87	9.68	10.10	11.00	Revenues per sh	13.20
1.89	1.91	1.62	1.52	1.90	1.95	1.93	2.04	2.11	2.64	2.63	2.97	3.18	3.31	3.46	2.93	3.60	4.10	"Cash Flow" per sh	4.70
1.15	1.16	.88	.81	1.05	1.11	1.19	1.13	1.13	1.53	1.66	1.92	2.04	2.08	2.13	1.38	2.15	2.65	Earnings per sh A	3.10
.83	.84	.85	.86	.87	.88	.90	.92	.94	.96	.98	1.01	1.05	1.12	1.18	1.24	1.30	1.35	Div'd Decl'd per sh B■	1.55
1.49	1.58	1.96	1.96	2.24	2.44	3.28	3.06	2.61	2.79	3.02	4.11	4.29	5.93	4.39	4.73	4.00	4.00	Cap'l Spending per sh	3.35
10.46	10.94	11.52	11.60	11.95	12.23	12.67	13.05	13.50	20.95	17.92	18.83	20.01	20.98	24.34	24.40	25.00	25.60	Book Value per sh D	26.80
7.97	8.04	8.17	8.27	8.38	8.46	8.57	8.68	8.76	8.85	11.04	11.12	11.19	11.25	12.07	12.05	12.20	12.30	Common Shs Outst'g C	12.50
23.5	22.9	28.6	29.0	23.0	22.2	18.4	20.7	23.0	19.4	18.4	17.5	17.6	23.3	26.5	46.3	Bold figures are	Value Line	Avg Ann'l P/E Ratio	19.0
1.34	1.21	1.52	1.57	1.22	1.34	1.23	1.32	1.44	1.23	1.03	.92	.89	1.22	1.33	2.49	estimates		Relative P/E Ratio	1.05
3.0%	3.1%	3.4%	3.6%	3.6%	3.6%	4.1%	3.9%	3.6%	3.2%	3.2%	3.0%	2.9%	2.3%	2.1%	1.9%			Avg Ann'l Div'd Yield	2.8%

CAPITAL STRUCTURE as of 6/30/19
Total Debt $261.0 mill. Due in 5 Yrs $6.2 mill.
LT Debt $256.9 mill. LT Interest $10.0 mill.
(47% of Cap'l)

Leases, Uncapitalized: Annual rentals $.7 mill.
Pension Assets-12/18 $70.3 mill.
Oblig. $82.9 mill.

Pfd Stock None

Common Stock 12,068,537 shs.

MARKET CAP: $850 million (Small Cap)

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
59.4	66.4	69.4	83.8	91.5	94.0	96.0	98.7	107.1	116.7	123	135	Revenues ($mill)	165
10.2	9.8	9.9	13.6	18.3	21.3	22.8	23.4	25.1	16.7	26.0	32.5	Net Profit ($mill)	38.5
19.5%	35.2%	41.3%	32.0%	28.0%	14.4%	3.5%	9.9%	9.9%	19.0%	21.0%	21.0%	Income Tax Rate	21.0%
--	--	--	1.7%	2.0%	2.4%	2.3%	5.1%	3.1%	3.1%	2.5%	2.5%	AFUDC % to Net Profit	2.5%
50.6%	49.5%	53.2%	49.0%	46.9%	45.7%	44.1%	45.4%	46.3%	46.7%	46.5%	45.5%	Long-Term Debt Ratio	45.0%
49.1%	50.2%	46.5%	50.8%	52.9%	54.1%	55.7%	54.4%	53.6%	53.3%	53.5%	54.5%	Common Equity Ratio	55.0%
221.3	225.6	254.2	364.6	373.6	386.8	402.4	433.8	547.8	551.6	570	580	Total Capital ($mill)	610
325.2	344.2	362.4	447.9	471.9	506.9	546.3	601.4	697.7	739.8	750	775	Net Plant ($mill)	800
5.5%	5.4%	4.9%	4.8%	5.9%	6.4%	6.5%	6.3%	5.4%	4.0%	5.5%	6.5%	Return on Total Cap'l	7.0%
9.3%	8.6%	8.3%	7.3%	9.2%	10.1%	10.1%	9.9%	8.5%	5.7%	8.5%	10.5%	Return on Shr. Equity	11.5%
9.4%	8.7%	8.3%	7.3%	9.2%	10.2%	10.1%	9.9%	8.5%	5.7%	8.5%	10.5%	Return on Com Equity	11.5%
2.3%	1.6%	1.4%	2.8%	3.8%	4.8%	4.9%	4.6%	3.8%	.6%	3.5%	5.0%	Retained to Com Eq	6.0%
76%	81%	83%	62%	59%	53%	52%	54%	55%	89%	61%	51%	All Div'ds to Net Prof	50%

CURRENT POSITION ($MILL.)	2017	2018	6/30/19
Cash Assets	3.6	2.9	2.4
Accounts Receivable	15.0	14.2	13.9
Other	17.1	21.4	24.1
Current Assets	35.7	38.5	40.4
Accts Payable	11.3	13.8	10.7
Debt Due	6.2	4.1	4.1
Other	24.0	61.0	81.1
Current Liab.	41.5	78.9	95.9

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '22-'24
Revenues	3.0%	1.0%	6.5%
"Cash Flow"	6.0%	5.5%	6.5%
Earnings	6.5%	5.5%	9.0%
Dividends	3.0%	4.0%	4.5%
Book Value	7.0%	6.0%	2.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2016	21.6	26.1	29.5	21.5	98.7
2017	22.5	27.9	31.8	24.9	107.1
2018	24.9	29.9	36.3	25.6	116.7
2019	26.2	30.7	39.0	27.1	123
2020	30.0	35.0	40.0	30.0	135

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2016	.28	.89	.84	.07	2.08
2017	.36	.73	.90	.14	2.13
2018	d.10	.39	1.13	d.04	1.38
2019	.19	.48	1.20	.28	2.15
2020	.40	.70	1.23	.32	2.65

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2015	.2575	.2575	.2675	.2675	1.05
2016	.2675	.2825	.2825	.2825	1.12
2017	.2825	.2975	.2975	.2975	1.18
2018	.2975	.3125	.3125	.3125	1.24
2019	.3125	.3275	.3275		

BUSINESS: Connecticut Water Service, Inc. is a non-operating holding company, whose income is derived from earnings of its wholly-owned subsidiary companies (regulated water utilities). In 2018, 85% of net income was derived from these activities. Provides water services to 450,000 people in 80 municipalities throughout Connecticut and Maine. Acquired The Maine Water Company, January, 2012; Biddeford and Saco Water, December, 2012; Heritage Village, February, 2017. Inc.: Conn.. Has 297 employees. Chairman/President/Chief Executive Officer: Eric W. Thornburg. Officers and directors own 1.3% of the common stock; BlackRock, Inc., 7.8% (4/19 proxy). Address: 93 West Main Street, Clinton, CT 06413. Telephone: (860) 669-8636. Internet: www.ctwater.com.

Connecticut Water Service's merger with SJW Group has taken a step in the right direction. Since our July review, state regulatory body Connecticut Public Utilities Regulatory Authority (PURA) announced its approval of the merger subsequent to both companies filing a revised merger application that addressed additional requirements. Specific addendums include rate-lock guarantees for customers, bill credits, conservation plans, and increased allocation for infrastructure upgrades. Given PURA's recent change of heart, it is likely that the California Public Utilities Commission will follow suit. The final piece of the puzzle rests in the hands of the Maine Public Utilities Commission (MPUC). Similar to its Connecticut proposal, CTWS' operating subsidiary, The Maine Water Company, requires approval from the MPUC and has highlighted notably commitments and benefits to its New England customers. A ruling from Maine regulators should be right around the corner (end of October). In sum, the $70-per-share all-cash transaction has surpassed its latest third-quarter closing deadline, but recent regulatory action suggests there is some light at the end of the tunnel.

Merger aside, Connecticut Water is apt to continue the overhaul of its aging infrastructure. Indeed, recent base-rake hikes across multiple subsidiaries ought to help drive investment, while periodic surcharge activity will also aid in the recoupment of funds. The company is focused on revamping its water distribution systems (mains and pumps), replacing old pipes, and installing more-efficient equipment (storage tanks and water treatment upgrades). Looking forward, these improvements ought to keep the top line edging higher while simultaneously boosting operating efficiencies.

The current quotation adequately reflects the merger's value. Connecticut Water stock is trading at the proposed merger price of $70 per share. Thus, in light of recent developments, its is probable that holding the stock until the merger is finalized or cashing out now will deliver equivalent results. Meanwhile, subscribers looking to stay invested would do well to shift their attention to SJW stock.

Nicholas P. Patrikis *October 11, 2019*

(A) Diluted earnings. Next earnings report due late November.
(B) Dividends historically paid in mid-March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions
(D) Includes intangibles. In 2018: $66.4 million/$5.51 a share.

Company's Financial Strength	B+
Stock's Price Stability	90
Price Growth Persistence	70
Earnings Predictability	65

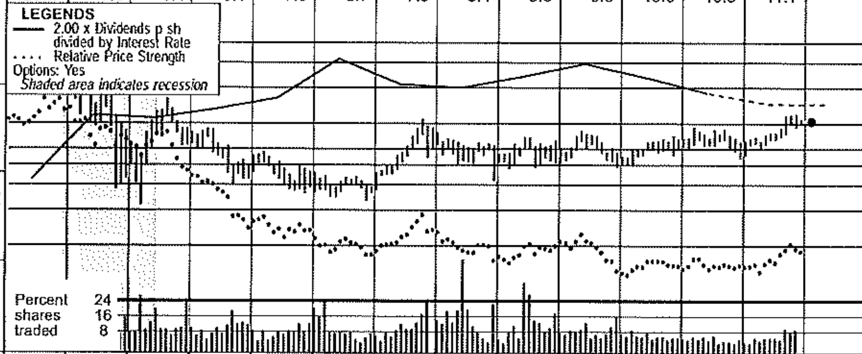
CONSOL. WATER CO. NDQ-CWCO

RECENT PRICE 16.46 | P/E RATIO 27.4 (Trailing: 30.5 / Median: 23.0) | RELATIVE P/E RATIO 1.49 | DIV'D YLD 2.1% | VALUE LINE

TIMELINESS 3 Raised 8/24/18
SAFETY 3 New 1/17/14
TECHNICAL 2 Lowered 12/27/19
BETA .85 (1.00 = Market)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
High:	29.8	21.3	15.1	11.7	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9
Low:	7.6	6.4	8.1	7.3	6.7	7.5	8.4	9.6	9.8	10.0	10.8	11.1

LEGENDS
— 2.00 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: Yes
Shaded area indicates recession



Target Price Range 2022 | 2023 | 2024

18-Month Target Price Range
Low-High: $10-$19 — Midpoint (% to Mid): $15 (-10%)

2022-24 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	35	(+115%)	23%
Low	25	(+50%)	14%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	34	34	44
to Sell	35	44	32
Hld's(000)	8032	8148	8224

Percent shares traded 24 / 16 / 8

% TOT. RETURN 11/19

	THIS STOCK	VL ARITH.* INDEX
1 yr.	38.0	6.5
3 yr.	64.3	24.6
5 yr.	54.4	38.9

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
1.68	2.02	1.12	2.71	3.41	4.52	3.99	3.49	3.79	4.49	4.35	4.46	3.86	3.89	4.18	4.39	4.50	4.55	Revenues per sh	9.40
.63	.77	.37	.87	1.20	.95	1.18	.86	.83	1.17	.96	.80	.89	.95	1.12	1.15	1.00	1.10	"Cash Flow" per sh	2.00
.42	.49	.23	.59	.79	.50	.74	.43	.42	.64	.58	.42	.51	.27	.41	.68	.58	.65	Earnings per sh A	1.40
.21	.23	.12	.24	.20	.33	.28	.30	.30	.30	.30	.30	.30	.30	.31	.34	.34	.34	Div'd Decl'd per sh B■	.75
.19	.24	.77	1.83	.54	.46	.18	.09	.96	.31	.29	.32	.21	.23	.31	1.08	.25	.45	Cap'l Spending per sh	.50
3.89	4.20	2.54	7.49	8.21	8.36	8.53	8.69	8.83	9.20	9.44	9.58	9.81	9.79	9.91	10.34	10.95	11.20	Book Value per sh D	12.20
11.37	11.51	23.46	14.13	14.40	14.53	14.54	14.55	14.57	14.59	14.69	14.72	14.78	14.87	14.92	14.98	15.10	15.20	Common Shs Outst'g C	16.00
19.3	23.1	NMF	43.0	35.4	37.8	19.0	26.9	22.4	12.4	20.0	28.3	22.7	44.8	29.0	19.4	Bold figures are		Avg Ann'l P/E Ratio	22.0
1.10	1.22	NMF	2.32	1.88	2.27	1.27	1.71	1.41	.79	1.12	1.49	1.14	2.35	1.46	1.05	Value Line		Relative P/E Ratio	1.20
2.6%	2.0%	.7%	.9%	.7%	1.7%	2.0%	2.6%	3.2%	3.8%	2.6%	2.5%	2.6%	2.5%	2.6%	2.6%	estimates		Avg Ann'l Div'd Yield	2.5%

CAPITAL STRUCTURE as of 9/30/19
Total Debt None

Leases, Uncapitalized: Annual rentals $.5 mill.

No Defined Benefit Pension Plan

Pfd Stock NMF (34,796 shares out.) Div'd NMF

Common Stock 15,027,574 shs. as of 11/15/19

MARKET CAP: $250 million (Small Cap)

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		22-24
58.0	50.7	55.2	65.5	63.8	65.6	57.1	57.9	62.3	65.7	68.0	69.0	Revenues ($mill)	150
10.8	6.3	6.1	9.3	8.6	6.3	7.5	4.0	6.1	10.2	9.0	10.0	Net Profit ($mill)	23.0
--	--	--	--	--	--	--	--	--	--	NMF	NMF	Income Tax Rate	NMF
--	--	4.0%	--	--	--	--	--	--	--	NMF	NMF	AFUDC % to Net Profit	NMF
13.8%	11.8%	5.1%	3.7%	--	--	--	--	--	--	Nil	Nil	Long-Term Debt Ratio	Nil
86.2%	88.2%	94.9%	96.3%	99.8%	99.8%	100.0%	100.0%	100.0%	100.0%	100%	100%	Common Equity Ratio	100%
143.9	143.3	135.6	139.4	138.9	141.2	145.0	145.6	147.9	155.0	165	170	Total Capital ($mill)	195
61.2	56.2	64.3	61.6	58.6	56.4	53.7	53.1	50.5	64.9	65.0	70.0	Net Plant ($mill)	100
8.1%	4.9%	5.0%	7.0%	6.2%	4.4%	5.2%	2.7%	4.2%	6.6%	5.5%	6.0%	Return on Total Cap'l	12.0%
8.7%	5.0%	4.7%	6.9%	6.2%	4.4%	5.2%	2.7%	4.2%	6.6%	5.5%	6.0%	Return on Shr. Equity	12.0%
8.7%	5.0%	4.7%	6.9%	6.2%	4.4%	5.2%	2.7%	4.1%	6.6%	5.5%	6.0%	Return on Com Equity	12.0%
4.6%	1.5%	1.0%	3.6%	3.0%	1.2%	2.1%	NMF	1.1%	3.3%	2.0%	3.0%	Retained to Com Eq	5.5%
46%	69%	79%	48%	51%	73%	59%	112%	73%	50%	59%	52%	All Div'ds to Net Prof	54%

CURRENT POSITION ($MILL.)	2017	2018	9/30/19
Cash Assets	47.2	31.3	43.6
Accts Receivable	15.0	24.2	23.0
Other	4.5	6.9	6.8
Current Assets	66.7	62.4	73.4
Accts Payable	5.7	4.6	2.2
Debt Due	.7	--	--
Other	1.2	3.3	2.3
Current Liab.	7.6	7.9	5.5

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '22-'24
Revenues	5.0%	.5%	14.5%
"Cash Flow"	2.0%	.5%	11.0%
Earnings	-3.0%	-4.5%	20.5%
Dividends	5.0%	--	15.5%
Book Value	5.0%	2.0%	3.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2016	14.0	15.4	14.4	14.1	57.9
2017	15.6	15.3	16.6	14.8	62.3
2018	14.3	15.9	18.8	16.7	65.7
2019	17.0	18.3	15.9	16.8	68.0
2020	17.0	18.0	16.5	17.5	69.0

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2016	.15	.15	d.13	.10	.27
2017	.18	.11	.08	.04	.41
2018	.14	.14	.30	.10	.68
2019	.17	.16	.11	.14	.58
2020	.18	.17	.15	.15	.65

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.075	.075	.075	.075	.30
2017	.075	.075	.075	.075	.30
2018	.085	.085	.085	.085	.34
2019	.085	.085	.085	.085	.34
2020					

BUSINESS: Consolidated Water Co. Ltd. develops and operates seawater desalination plants and water distribution systems in areas where naturally occurring supplies of potable water are scarce or nonexistent. It provides water in the Cayman Islands, the Bahamas, the British Virgin Isl, and Bali. At 12/31/18, it operated 11 plants with a capacity of 24.6 million gallons per day. In 2017, Bali classified as disc. oper. Divested Belize assets 2019. Inc.: Cayman Islands. Has 108 employees. Pres. & CEO : F. McTaggart. Offs./Dirs. own 4.8% of stock; Amundi Asset Mgt.: 7.7%; Black-Rock, 5.6% (4/19 proxy). Addr.: Regatta Off. Pk. Windward Three, 4th Floor, West Bay Road, P.O. Box 1114 Grand Cayman, KYI-1102, Cayman Islands. Tel.: (345) 945-4277. Int.: www.cwco.com.

Consolidated Water's share earnings will probably recover, to some extent, in 2020. Last year's bottom line was hurt when bulk water rates were reduced in the Cayman Islands. Year-over-year comparisons were also not favorable due to some unusual gains recorded in 2018. However, increased activity at the Aerex business, which manufactures parts for desalination facilities, should rise as more of these projects are built. All told, Consolidated share net could climb 11%.

The desalination segment of the water sector remains attractive. Management currently estimates that there are 18,500 desalination plants in the world that supply water to over 300 million people. Annual growth in this sector is expected to average close to 10%. Much of this will be attributable to rising populations in many parts of the world were potable water is not plentiful. Indeed, in California and the southwestern United States, the use of this process ought to pick up considerably. In the Golden State, there are 11 projects in operation, with another 10 in the planning stages. Consolidated has most of its plants domiciled in countries where operating can be difficult, at times, and would like to increase its presence here.

All approvals for the Rosarito project have not yet been granted. The company has completed all of the pre-construction work for developing a desalination plant to serve the city of Tijuana. The most recent delay was due to a newly elected administration coming into office. While the regulatory process may take longer than expected, the chances of it being permitted are excellent, as the water is needed. In any case, Consolidated is limiting its risk here as it will only be the operator and minority owner. Suez International will construct Rosarito.

This stock is not for the typical water utility investor. For starters, the company's earnings stream is much less predictable than the other regulated companies in this group. Part of this is due to its extensive overseas operations. An average selection for the year ahead, these shares have negative potential in the 18-month period. Over the pull to 2022-2024, however, the equity may well generate above-average returns.

James A. Flood — *January 10, 2020*

(A) Fully diluted earnings. Excludes gains from discontinued operations: '17, $0.07 a share; '18, $0.07 a share; '19, $0.24 a share. Next earnings report due mid-February.
(B) Dividends historically paid in late January, April, July, and October. ■ Dividend reinvestment plan available.
(C) In millions, adjusted for stock split.
(D) Includes intangibles. As of 9/30/19, $9.3 million/$0.62 a share.

Company's Financial Strength	B+
Stock's Price Stability	50
Price Growth Persistence	30
Earnings Predictability	40

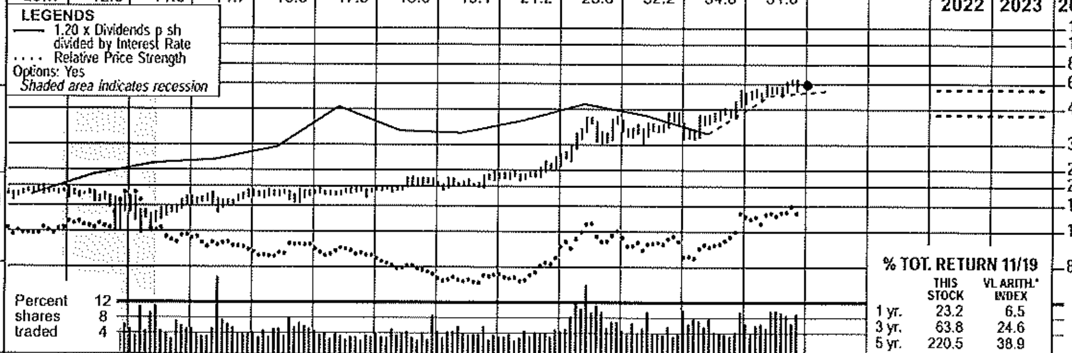
MIDDLESEX WATER NDQ-MSEX

RECENT PRICE 63.56 | P/E RATIO 31.5 (Trailing: 32.3 Median: 21.0) | RELATIVE P/E RATIO 1.71 | DIV'D YLD 1.6% | VALUE LINE

TIMELINESS 3 Lowered 5/24/19
SAFETY 2 New 10/21/11
TECHNICAL 2 Raised 1/3/20
BETA .75 (1.00 = Market)

18-Month Target Price Range
Low-High Midpoint (% to Mid)
$52-$89 $71 (10%)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
High:	19.8	17.9	19.3	19.4	19.6	22.5	23.7	28.0	44.5	46.7	60.3	67.7
Low:	12.0	11.6	14.7	16.5	17.5	18.6	19.1	21.2	25.0	32.2	34.0	51.0



2022-24 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	60	(-5%)	Nil
Low	45	(-30%)	-6%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	72	79	56
to Sell	67	58	67
Hld's(000)	9424	9432	9915

% TOT. RETURN 11/19

	THIS STOCK	VL ARITH.* INDEX
1 yr.	23.2	6.5
3 yr.	63.8	24.6
5 yr.	220.5	38.9

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
6.12	6.25	6.44	6.16	6.50	6.79	6.75	6.60	6.50	6.98	7.19	7.26	7.77	8.16	8.00	8.42	7.70	8.20	Revenues per sh	9.15
1.15	1.28	1.33	1.33	1.49	1.53	1.40	1.55	1.46	1.56	1.72	1.84	1.97	2.17	2.24	2.89	2.80	2.95	"Cash Flow" per sh	3.45
.61	.73	.71	.82	.87	.89	.72	.96	.84	.90	1.03	1.13	1.22	1.38	1.38	1.96	1.95	2.10	Earnings per sh A	2.45
.65	.66	.67	.68	.69	.70	.71	.72	.73	.74	.75	.76	.78	.81	.86	.91	.98	1.04	Div'd Decl'd per sh B■	1.15
1.87	2.54	2.18	2.31	1.66	2.12	1.49	1.90	1.50	1.36	1.26	1.40	1.59	2.91	3.08	4.40	3.50	3.50	Cap'l Spending per sh	3.50
7.60	8.02	8.26	9.52	10.05	10.03	10.33	11.13	11.27	11.48	11.82	12.24	12.74	13.40	14.02	15.17	15.70	16.15	Book Value per sh	17.05
10.48	11.36	11.58	13.17	13.25	13.40	13.52	15.57	15.70	15.82	15.96	16.12	16.23	16.30	16.35	16.40	17.50	17.65	Common Shs Outst'g C	18.00
30.0	26.4	27.4	22.7	21.6	19.8	21.0	17.8	21.7	20.8	19.7	18.5	19.1	25.6	28.4	22.2	Bold figures are		Avg Ann'l P/E Ratio	21.0
1.71	1.39	1.46	1.23	1.15	1.19	1.40	1.13	1.36	1.32	1.11	.97	.96	1.34	1.43	1.20	Value Line		Relative P/E Ratio	1.15
3.5%	3.4%	3.5%	3.7%	3.7%	4.0%	4.7%	4.2%	4.0%	4.0%	3.7%	3.7%	3.3%	2.3%	2.2%	2.1%	estimates		Avg Ann'l Div'd Yield	2.2%

CAPITAL STRUCTURE as of 9/30/19
Total Debt $294.0 mill. Due in 5 Yrs $65.7 mill.
LT Debt $228.3 mill. LT Interest $6.8 mill.
(Total interest coverage: 8.5x)
(45% of Cap'l)

Pension Assets-12/18 $66.8 mill.
Oblig. $83.9 mill.
Pfd Stock $2.4 mill. Pfd Div'd: $.1 mill.

Common Stock 16,669,540 shs.
as of 10/31/19

MARKET CAP: $1.1 billion (Mid-Cap)

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
91.2	102.7	102.1	110.4	114.8	117.1	126.0	132.9	130.8	138.1	135	145	Revenues ($mill)	165
10.0	14.3	13.4	14.4	16.6	18.4	20.0	22.7	22.8	32.5	34.0	37.0	Net Profit ($mill)	44.0
34.1%	32.1%	32.7%	33.9%	34.1%	35.0%	34.5%	34.0%	32.7%	2.8%	21.0%	21.0%	Income Tax Rate	21.0%
--	6.8%	6.1%	3.4%	1.9%	1.7%	1.9%	2.7%	3.1%	1.4%	2.0%	2.0%	AFUDC % to Net Profit	2.5%
46.6%	43.1%	42.3%	41.5%	40.4%	40.5%	39.4%	37.9%	37.5%	37.8%	45.0%	42.5%	Long-Term Debt Ratio	39.5%
52.1%	55.8%	56.6%	57.4%	58.7%	58.8%	59.8%	61.5%	61.8%	61.6%	54.5%	57.5%	Common Equity Ratio	60.5%
267.9	310.5	312.5	316.5	321.4	335.8	345.4	355.4	370.7	404.1	505	500	Total Capital ($mill)	510
376.5	405.9	422.2	435.2	446.5	465.4	481.9	517.8	557.2	618.5	625	635	Net Plant ($mill)	650
5.0%	5.7%	5.2%	5.4%	5.9%	6.3%	6.6%	7.1%	6.9%	8.9%	7.5%	8.0%	Return on Total Cap'l	9.0%
7.0%	8.1%	7.5%	7.8%	8.7%	9.2%	9.6%	10.3%	9.8%	12.9%	12.5%	13.0%	Return on Shr. Equity	14.0%
7.0%	8.2%	7.5%	7.8%	8.7%	9.3%	9.6%	10.3%	9.9%	13.0%	12.5%	13.0%	Return on Com Equity	14.5%
.1%	2.1%	1.0%	1.4%	2.4%	3.1%	3.5%	4.3%	3.8%	7.0%	6.0%	6.5%	Retained to Com Eq	7.5%
98%	75%	87%	83%	73%	67%	63%	58%	62%	46%	50%	49%	All Div'ds to Net Prof	47%

CURRENT POSITION ($MILL.)	2017	2018	9/30/19
Cash Assets	4.9	3.7	3.2
Other	24.3	27.1	31.5
Current Assets	29.2	30.8	34.7
Accts Payable	13.9	19.3	20.2
Debt Due	34.9	55.8	65.7
Other	15.7	19.3	17.6
Current Liab.	64.5	94.4	103.5

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '22-'24
Revenues	2.5%	3.5%	2.0%
"Cash Flow"	5.5%	9.0%	6.5%
Earnings	6.0%	11.0%	7.5%
Dividends	2.0%	3.0%	5.0%
Book Value	3.5%	4.5%	3.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2016	30.6	32.7	37.8	31.8	132.9
2017	30.1	33.0	36.2	31.5	130.8
2018	31.2	34.9	38.7	33.3	138.1
2019	30.7	33.4	37.8	33.1	135
2020	32.0	36.0	42.0	35.0	145

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2016	.29	.36	.54	.19	1.38
2017	.27	.33	.46	.32	1.38
2018	.27	.52	.74	.43	1.96
2019	.39	.49	.66	.41	1.95
2020	.40	.55	.70	.45	2.10

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.19875	.19875	.19875	.21125	.81
2017	.21125	.21125	.21125	.22375	.86
2018	.22375	.22375	.22375	.24	.91
2019	.24	.24	.24	.2562	.98
2020					

BUSINESS: Middlesex Water Company engages in the ownership and operation of regulated water utility systems in New Jersey, Delaware, and Pennsylvania. It also operates water and wastewater systems under contract on behalf of municipal and private clients in NJ and DE. Its Middlesex System provides water services to 61,000 retail customers, primarily in Middlesex County, New Jersey. In 2018, the Middlesex System accounted for 59% of operating revenues. At 12/31/18, the company had 330 employees. Incorporated: NJ. President, CEO, and Chairman: Dennis W. Doll. Officers & directors own 3.5% of the com. stock; BlackRock Inst. Trust Co., 6.8% (4/19 proxy). Add.: 485 C Route 1 South, Suite 400, Iselin, NJ 08830. Tel.: 732-634-1500. Int.: www.middlesexwater.com.

Middlesex Water Company has tapped the equity markets. The company recently finalized a public offering of approximately 760,000 shares of common stock at a price of $60.50 per share (includes additional shares purchased by underwriters). Middlesex received total net proceeds of $43.8 million, which have been earmarked for a number of efforts, including general corporate purposes, paying off short-term obligations, completing acquisitions, and funding the continuation of infrastructure investment initiatives.

We are moderately tempering our 2019 and 2020 earnings forecasts. The Northeast water and wastewater operator saw net income contract year-over-year in the third quarter, to $0.66 per share, partly due to weaker revenues stemming from softer water consumption related to unfavorable weather. Operating expenses were essentially unchanged, on an annual basis. All told, we are slicing a nickel and a dime off our 2019 and 2020 share-net estimates, to $1.95 and $2.10, respectively.

Middlesex shares may be cooling off a bit. The stock price pulled back modestly since our last report, despite stamping a fresh all-time high in late October. For much of 2019, the stock has traded in a relatively tight range. Indeed, investors may be starting to take some profits off the table following several years of strong price appreciation and the recent dilution.

The board of directors increased the quarterly payout 7%, to $0.2562 per share. While consistent dividend hikes are reassuring, at current levels, this equates to an annual yield of about 1.6%, which does not necessarily jump out to the income-seeking crowd.

What about Middlesex stock? The company is in decent shape from a fundamental perspective, and long-term business prospects should be enhanced by multiple catalysts, such as an expanding customer base (particularly in Delaware), periodic rate increases, and strong infrastructure spending. However, the issue is presently void of investment appeal. Middlesex shares are just an average selection for relative year-ahead price performance, and most of the gains we envision three to five years out appear to already be baked into the recent quotation.

Nicholas P. Patrikis *January 10, 2020*

(A) Diluted earnings. Next earnings report due late January.
(B) Dividends historically paid in mid-Feb., May, Aug., and November.■ Div'd reinvestment plan available.
(C) In millions.

Company's Financial Strength	B++
Stock's Price Stability	65
Price Growth Persistence	55
Earnings Predictability	75

SJW GROUP NYSE-SJW

RECENT PRICE 71.79 | P/E RATIO 44.3 (Trailing: 51.6; Median: 21.0) | RELATIVE P/E RATIO 2.41 | DIV'D YLD 1.7% | VALUE LINE

TIMELINESS – Suspended 5/4/18
SAFETY 3 New 4/22/11
TECHNICAL – Suspended 5/4/18
BETA .60 (1.00 = Market)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
High:	35.1	30.4	28.2	26.8	26.9	30.1	33.7	35.7	56.9	69.3	68.4
Low:	20.0	18.2	21.6	20.9	22.6	24.5	25.5	27.5	28.6	45.4	51.3

High: 74.5 / Low: 53.9 (2019, to date)

Target Price Range
2022 | 2023 | 2024

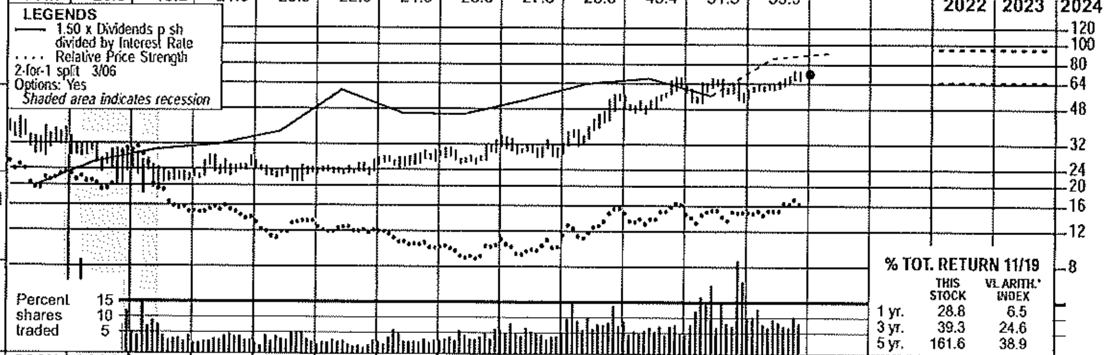
18-Month Target Price Range
Low-High: $51-$85; Midpoint (% to Mid): $68 (-5%)

2022-24 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	95	(+30%)	9%
Low	65	(-10%)	Nil

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	88	91	94
to Sell	71	62	69
Hld's(000)	19349	19526	19354



% TOT. RETURN 11/19

	THIS STOCK	VL ARITH.* INDEX
1 yr.	28.8	6.5
3 yr.	39.3	24.6
5 yr.	161.6	38.9

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
8.20	9.14	9.86	10.35	11.25	12.12	11.68	11.62	12.85	14.01	13.73	15.76	14.97	16.61	18.97	14.00	14.15	18.15	Revenues per sh	20.85
1.75	1.89	2.21	2.38	2.30	2.44	2.21	2.38	2.80	2.97	2.90	4.42	3.86	4.76	5.24	3.29	3.15	4.15	"Cash Flow" per sh	5.30
.91	.87	1.12	1.19	1.04	1.08	.81	.84	1.11	1.18	1.12	2.54	1.85	2.57	2.86	1.82	1.45	2.45	Earnings per sh A	3.65
.49	.51	.53	.57	.61	.65	.66	.68	.69	.71	.73	.75	.78	.81	1.04	1.12	1.20	1.28	Div'd Decl'd per sh B■	1.50
3.41	2.31	2.83	3.87	6.62	3.79	3.17	5.65	3.75	5.67	4.68	5.02	5.24	6.95	7.26	5.08	5.00	5.25	Cap'l Spending per sh	5.25
9.11	10.11	10.72	12.48	12.90	13.99	13.66	13.75	14.20	14.71	15.92	17.75	18.83	20.61	22.57	31.31	31.20	32.70	Book Value per sh	38.35
18.27	18.27	18.27	18.28	18.36	18.18	18.50	18.55	18.59	18.67	20.17	20.29	20.38	20.46	20.52	28.40	29.00	29.50	Common Shs Outst'g C	30.00
15.4	19.6	19.7	23.5	33.4	26.2	28.7	29.1	21.2	20.4	24.3	11.2	16.6	15.7	18.8	32.7	Bold figures are		Avg Ann'l P/E Ratio	22.0
.88	1.04	1.05	1.27	1.77	1.58	1.91	1.85	1.33	1.30	1.37	.59	.84	.82	.95	1.76	Value Line		Relative P/E Ratio	1.20
3.5%	3.0%	2.4%	2.0%	1.7%	2.3%	2.8%	2.8%	2.9%	3.0%	2.7%	2.6%	2.5%	2.0%	1.9%	1.9%	estimates		Avg Ann'l Div'd Yield	1.9%

CAPITAL STRUCTURE as of 9/30/19
Total Debt $511.1 mill. **Due in 5 Yrs** $14.3 mill.
LT Debt $511.1 mill. **LT Interest** $20.0 mill.
(LT Interest Coverage: 7.1x)
(37% of Cap'l)

Leases, Uncapitalized: Annual rentals $4.4 mill.

Pension Assets-12/18 $127.6 mill.
Oblig. $187.9 mill.

Pfd Stock None.
Common Stock 28,456,490 shs.
as of 10/28/19
MARKET CAP: $2.0 billion (Mid Cap)

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		22-24
216.1	215.6	239.0	261.5	276.9	319.7	305.1	339.7	389.2	397.7	410	535	Revenues ($mill)	625
15.2	15.8	20.9	22.3	23.5	51.8	37.9	52.8	59.2	38.8	42.0	72.0	Net Profit ($mill)	110
40.4%	38.8%	41.1%	41.1%	38.7%	32.5%	38.1%	38.8%	36.7%	20.6%	21.0%	21.0%	Income Tax Rate	21.0%
2.0%	--	--	--	--	--	--	--	2.0%	1.0%	1.5%	1.5%	AFUDC % to Net Profit	1.5%
49.4%	53.7%	56.6%	55.0%	51.1%	51.6%	49.8%	50.7%	48.2%	32.7%	36.5%	35.0%	Long-Term Debt Ratio	32.5%
50.6%	46.3%	43.4%	45.0%	48.9%	48.4%	50.2%	49.3%	51.8%	67.3%	63.5%	65.0%	Common Equity Ratio	67.5%
499.6	550.7	607.9	610.2	656.2	744.5	764.6	855.0	894.3	1320.7	1420	1490	Total Capital ($mill)	1700
718.5	785.5	756.2	831.6	898.7	963.0	1036.8	1146.4	1239.3	1328.8	1365	1400	Net Plant ($mill)	1500
4.4%	4.3%	4.9%	5.0%	5.0%	8.3%	6.3%	7.4%	7.9%	3.9%	4.0%	5.5%	Return on Total Cap'l	7.0%
6.0%	6.2%	7.9%	8.1%	7.3%	14.4%	9.9%	12.5%	12.8%	4.4%	4.5%	7.5%	Return on Shr. Equity	9.5%
6.0%	6.2%	7.9%	8.1%	7.3%	14.4%	9.9%	12.5%	12.8%	4.4%	4.5%	7.5%	Return on Com Equity	9.5%
1.2%	1.2%	3.1%	3.3%	2.8%	10.2%	5.7%	8.6%	8.2%	1.8%	1.0%	3.5%	Retained to Com Eq	5.5%
80%	80%	61%	59%	62%	29%	42%	31%	36%	60%	83%	52%	All Div'ds to Net Prof	41%

CURRENT POSITION ($MILL.)	2017	2018	9/30/19
Cash Assets	7.8	420.7	424.7
Accts Receivable	17.3	19.2	28.0
Other	41.8	62.8	55.1
Current Assets	66.9	502.7	507.8
Accts Payable	23.0	24.9	28.2
Debt Due	--	--	--
Other	62.1	139.1	116.1
Current Liab.	85.1	164.0	144.3

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '22-'24
Revenues	5.0%	5.5%	4.0%
"Cash Flow"	7.0%	11.0%	3.0%
Earnings	8.0%	18.5%	7.0%
Dividends	4.5%	5.0%	7.0%
Book Value	5.5%	8.0%	7.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2016	61.1	86.9	112.3	79.4	339.7
2017	69.0	102.1	124.6	93.5	389.2
2018	75.0	99.1	124.9	98.7	397.7
2019	77.7	103.0	114.0	115	410
2020	105	135	170	125	535

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2016	.16	.82	.92	.67	2.57
2017	.18	.90	.94	.84	2.86
2018	.06	.62	.76	.38	1.82
2019	.21	.47	.33	.44	1.45
2020	.20	.65	.95	.65	2.45

Cal-endar	QUARTERLY DIVIDENDS PAID BD■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.2025	.2025	.2025	.2025	.81
2017	.2175	.2175	.2175	.3875	1.04
2018	.28	.28	.28	.28	1.12
2019	.30	.30	.30	.30	1.20
2020					

BUSINESS: SJW Group engages in the production, purchase, storage, purification, distribution, and retail sale of water. It provides water service to approximately 231,000 connections with a total population of roughly one million people in the San Jose area and 16,000 connections that reach about 49,000 residents in the region between San Antonio and Austin, Texas. The company merged with Connecticut Water (10/19) which provides service to approx. 138,000 connections with total population of 450,000 people. Has about 416 employees. Officers and directors own 8.2% of outstanding shares (3/19 proxy). Chairman & CEO: Richard Roth. Incorporated: California. Address: 110 West Taylor Street, San Jose, CA 95110. Telephone: (408) 279-7800. Internet: www.sjwater.com.

SJW Group completed the purchase of Connecticut Water Service in October of 2019. The $70-per-share all-cash transaction took nearly a year to close after both entities finally received the nod from their respective regulatory agencies. The third-largest investor-owned regulated water and wastewater provider now caters to roughly 1.5 million people across the U.S. Moreover, Connecticut Water is well represented on the board of directors, as three former directors have been given seats on SJW Group's board.

Accordingly, we are lifting our 2020 financial projections to reflect the deal. The company probably ended 2019 on a mixed note. Added revenues from Connecticut operations may be partially offset by a recent ruling on SJW's conservation memorandum account balance. Nevertheless, the stage is set for a promising 2020, in our view. We now look for revenues of $535 million and earnings of $2.45 a share this year.

SJW Group hopes to deploy advanced metering services to its customers over the next several years. Specifically, the company recently filed an application with the California Public Utilities Commission to deploy Advanced Metering Infrastructure, a technology that can provide essential water usage information to customers on an hourly basis rather than once every two months. Near real-time water consumption data, early leak detection, and usage spike notifications ought to help customers meet California's revised state conservation standards (takes effect in 2022), which are vital given that the area is prone to extreme drought conditions. Further, the AMI program will likely be accompanied by additional infrastructure investment (upgrades to water filtration systems, treatment plants, and pipelines) over the pull to 2022-2024.

The issue remains suspended for Timeliness given the recent merger. SJW Group's expanded operational footprint augurs well for long-term business prospects. Also, given that the market continues to print record highs, we think a rotation into noncyclical, defensive assets could develop. Even so, we are not recommending capital commitments at the recently elevated valuation.

Nicholas P. Patrikis *January 10, 2020*

(A) Diluted earnings. Excludes nonrecurring losses: '03, $1.97; '04, $3.78; '05, $1.09; '06, $16.36; '08, $1.22; '10, $0.46. GAAP accounting as of 2013. Next earnings report due early February. Quarterly earnings may not add due to rounding.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions, adjusted for stock splits.
(D) Paid special dividend of $0.17 per share on 11/17.

Company's Financial Strength	B+
Stock's Price Stability	75
Price Growth Persistence	60
Earnings Predictability	45

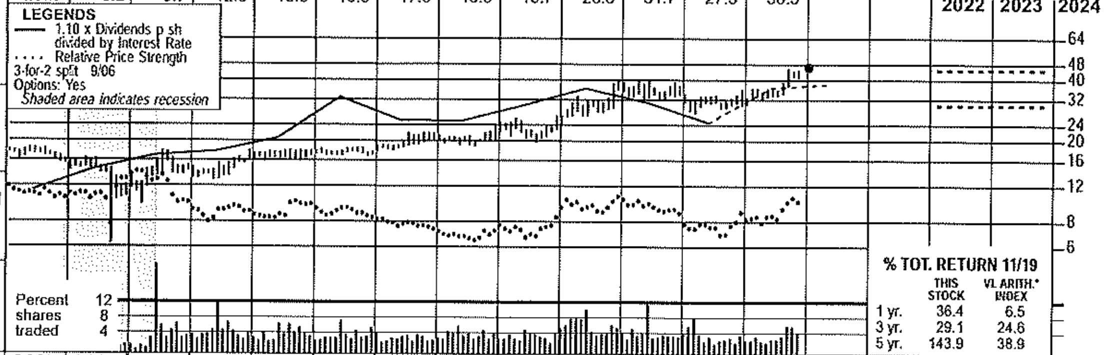
YORK WATER NDQ-YORW

RECENT PRICE 46.38 | P/E RATIO 39.3 (Trailing: 40.7 Median: 25.0) | RELATIVE P/E RATIO 2.14 | DIV'D YLD 1.6% | VALUE LINE

TIMELINESS 1 Raised 10/11/19
SAFETY 3 Lowered 7/17/15
TECHNICAL 3 Raised 1/3/20
BETA .70 (1.00 = Market)

High:	16.5	18.0	18.0	18.1	18.5	22.0	24.3	26.7	39.8	39.9	36.1	47.3
Low:	6.2	9.7	12.8	15.8	16.8	17.6	18.8	19.7	23.8	31.7	27.5	30.3

LEGENDS
—— 1.10 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
3-for-2 split 9/06
Options: Yes
Shaded area indicates recession



Target Price Range

2022	2023	2024

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$32-$52	$42 (-10%)

2022-24 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(-5%)	1%
Low	30	(-35%)	-7%

Institutional Decisions

	1Q2019	2Q2019	3Q2019
to Buy	33	48	55
to Sell	40	31	30
Hld's(000)	4794	4866	5111

Percent shares traded 12 8 4

% TOT. RETURN 11/19

	THIS STOCK	VL ARITH.* INDEX
1 yr.	36.4	6.5
3 yr.	29.1	24.6
5 yr.	143.9	38.9

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
2.17	2.18	2.58	2.56	2.79	2.89	2.95	3.07	3.18	3.21	3.27	3.58	3.68	3.70	3.77	3.74	*3.95*	*4.05*	Revenues per sh	*5.10*
.65	.65	.79	.77	.86	.88	.95	1.07	1.09	1.12	1.19	1.36	1.45	1.42	1.53	1.58	*1.75*	*1.80*	"Cash Flow" per sh	*2.50*
.47	.49	.56	.58	.57	.57	.64	.71	.71	.72	.75	.89	.97	.92	1.01	1.04	*1.15*	*1.20*	Earnings per sh A	*1.70*
.37	.39	.42	.45	.48	.49	.51	.52	.53	.54	.55	.57	.60	.63	.65	.67	*.70*	*.73*	Div'd Decl'd per sh B	*.95*
1.07	2.50	1.69	1.85	1.69	2.17	1.18	.83	.74	.94	.76	1.10	1.11	1.03	1.95	1.95	*2.00*	*2.00*	Cap'l Spending per sh	*1.85*
4.06	4.65	4.85	5.84	5.97	6.14	6.92	7.19	7.45	7.73	7.98	8.15	8.51	8.88	9.28	9.75	*10.40*	*11.25*	Book Value per sh	*12.10*
9.63	10.33	10.40	11.20	11.27	11.37	12.56	12.69	12.79	12.92	12.98	12.83	12.81	12.85	12.87	12.94	*13.00*	*12.90*	Common Shs Outst'g C	*12.80*
24.5	25.7	26.3	31.2	30.3	24.6	21.9	20.7	23.9	24.4	26.3	23.1	23.5	32.8	34.6	30.3	*Bold figures are*		Avg Ann'l P/E Ratio	*22.5*
1.40	1.36	1.40	1.68	1.61	1.48	1.46	1.32	1.50	1.55	1.48	1.22	1.18	1.72	1.74	1.63	*Value Line*		Relative P/E Ratio	*1.25*
3.2%	3.1%	2.9%	2.5%	2.8%	3.5%	3.6%	3.5%	3.1%	3.1%	2.8%	2.8%	2.6%	2.1%	1.9%	2.1%	*estimates*		Avg Ann'l Div'd Yield	*2.5%*

CAPITAL STRUCTURE as of 9/30/19
Total Debt $100.7 mill. Due in 5 Yrs $42.5 mill.
LT Debt $94.2 mill. LT Interest $5.5 mill.
(43% of Cap'l)

Pension Assets12/18 $40.6 mill.
Oblig. $41.5 mill.

Pfd Stock None

Common Stock 12,984,826 shs.

MARKET CAP: $600 million (Small Cap)

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		22-24
37.0	39.0	40.6	41.4	42.4	45.9	47.1	47.6	48.6	48.4	*51.5*	*52.5*	Revenues ($mill)	*65.0*
7.5	8.9	9.1	9.3	9.7	11.5	12.5	11.8	13.0	13.4	*14.9*	*15.5*	Net Profit ($mill)	*21.5*
37.9%	38.5%	35.3%	37.6%	37.6%	29.8%	27.5%	31.3%	25.9%	15.7%	*21.0%*	*21.0%*	Income Tax Rate	*21.0%*
--	1.2%	1.1%	1.1%	.8%	1.8%	1.6%	1.9%	6.7%	1.7%	*2.0%*	*1.5%*	AFUDC % to Net Profit	*1.5%*
45.7%	48.3%	47.1%	46.0%	45.1%	44.8%	44.4%	42.6%	43.0%	42.5%	*40.0%*	*37.0%*	Long-Term Debt Ratio	*34.0%*
54.3%	51.7%	52.9%	54.0%	54.9%	55.2%	55.6%	57.4%	57.0%	57.5%	*60.0%*	*63.0%*	Common Equity Ratio	*66.0%*
160.1	176.4	180.2	184.8	188.4	189.4	196.3	198.7	209.5	219.5	*225*	*230*	Total Capital ($mill)	*235*
222.0	228.4	233.0	240.3	244.2	253.2	261.4	270.9	288.8	299.2	*305*	*315*	Net Plant ($mill)	*325*
6.2%	6.5%	6.4%	6.4%	6.5%	7.4%	7.6%	7.2%	7.5%	7.3%	*7.5%*	*8.0%*	Return on Total Cap'l	*10.5%*
8.6%	9.8%	9.5%	9.3%	9.3%	11.0%	11.5%	10.4%	10.9%	10.6%	*11.0%*	*10.5%*	Return on Shr. Equity	*14.0%*
8.6%	9.8%	9.5%	9.3%	9.3%	11.0%	11.5%	10.4%	10.9%	10.6%	*11.0%*	*10.5%*	Return on Com Equity	*14.0%*
1.9%	2.7%	2.5%	2.4%	2.4%	3.9%	4.4%	3.4%	4.0%	3.8%	*4.5%*	*4.0%*	Retained to Com Eq	*6.0%*
78%	72%	73%	74%	74%	64%	62%	67%	63%	64%	*61%*	*61%*	All Div'ds to Net Prof	*56%*

CURRENT POSITION ($MILL.)	2017	2018	9/30/19
Cash Assets	--	--	--
Accounts Receivable	4.5	4.8	4.5
Inventory (Avg. Cost)	.9	.9	1.0
Other	3.2	3.3	4.4
Current Assets	8.6	9.0	9.9
Accts Payable	3.1	3.0	4.8
Debt Due	--	1.0	6.5
Other	6.0	6.8	5.6
Current Liab.	9.1	10.8	16.9

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '16-'18 to '22-'24
Revenues	3.0%	3.0%	5.5%
"Cash Flow"	6.0%	6.0%	9.0%
Earnings	5.5%	6.5%	9.5%
Dividends	3.5%	4.0%	6.5%
Book Value	4.5%	4.0%	4.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2016	11.3	11.8	12.6	11.9	47.6
2017	11.3	12.3	12.7	12.3	48.6
2018	11.6	12.0	12.7	12.1	48.4
2019	11.8	13.0	13.7	*13.0*	*51.5*
2020	*12.2*	*13.0*	*14.0*	*13.3*	*52.5*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2016	.19	.23	.27	.23	.92
2017	.20	.23	.31	.27	1.01
2018	.20	.26	.29	.29	1.04
2019	.22	.28	.35	*.30*	*1.15*
2020	*.23*	*.30*	*.35*	*.32*	*1.20*

Cal-endar	QUARTERLY DIVIDENDS PAID B Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.1555	.1555	.1555	.1602	.627
2017	.1602	.1602	.1602	.1666	.647
2018	.1666	.1666	.1666	.1733	.673
2019	.1733	.1733	.1733	.1802	.70
2020					

BUSINESS: The York Water Company is the oldest investor-owned regulated water utility in the United States. It has operated continuously since 1816. As of December 31, 2018, the company's average daily availability was 35.4 million gallons and its service territory had an estimated population of 199,000. Has more than 69,000 customers. Residential customers accounted for 65% of 2018 revenues; commercial and industrial (28%); other (7%). It also provides sewer billing services. Incorporated: PA. York had 109 full-time employees at 12/31/18. President/CEO: Jeffrey R. Hines. Officers/directors own 1.2% of the common stock (3/19 proxy). Address: 130 East Market Street, York, Pennsylvania 17401. Telephone: (717) 845-3601. Internet: www.yorkwater.com.

York Water Company posted good results for the September period. Notably, revenues of $13.7 million rose nearly 8% year over year, easily topping our $13.2 million call. A number of drivers underpinned the outperformance, including increased rates (most recent base rate hike was March 1, 2019), solid customer growth, as well as higher per capita consumption. These tailwinds outweighed weaker contributions from improvement charges. On the earnings front, the company delivered net income of $0.35 a share, or 21% better than the previous-year tally. Greater revenues and lower taxes owing to higher allowed deductions from the IRS tangible property regulations helped mitigate a modest rise in operation and maintenance expenses.

The company likely closed out the year earning $1.15 a share from $51.5 million in revenues. Given the recent showing, we have added $1 million and $0.05 a share to our current-year top- and bottom-line estimates, respectively.

Infrastructure upgrades are on track. For 2019, York likely spent upwards of $18.0 million, excluding acquisitions, on dam construction, pipe and valve replacements, and other improvements. As we move deeper into this decade, it's probable that leadership will continue to focus on upgrades to ensure safe wastewater management and reliable water delivery to its expanding customer base.

The stock remains in favor among the investment community. Indeed, York shareholders have enjoyed a fruitful 2019 thus far, as the stock is up almost 50% in price year to date. Over the past three months, shares have appreciated approximately 7% in value, etching a fresh high-water mark along the way. We continue to recommend subscribers with a short-term view have a look here, as this timely (1: Highest) issue may still have some room to run over the coming six to 12 months.

But those with an eye toward the long pull should hold off at this juncture. As a result of the recent share-price ascent, capital appreciation potential three to five years hence is unappealing. Further, despite annual payout hikes, the dividend yield has struggled to keep pace with historical averages.

Nicholas P. Patrikis *January 10, 2020*

(A) Diluted earnings. Next earnings report due late January.
(B) Dividends historically paid in late February, June, September, and December.
(C) In millions, adjusted for split.

Company's Financial Strength	B+
Stock's Price Stability	60
Price Growth Persistence	70
Earnings Predictability	95

CASE: UG 388
WITNESSES: MATT MULDOON &
MOYA ENRIGHT

PUBLIC UTILITY COMMISSION
OF
OREGON

STAFF EXHIBIT 1305
Cost of LT Debt

Exhibits in Furtherance
of Testimony in Support of Partial Stipulation

May 13, 2020

Staff Exhibit 1305, pages 1 to 6

are confidential and will be filed as an

excel spreadsheet

and

Is subject to

Protective Order No. 19-437

NW Natural®

Rates & Regulatory Affairs
UG 388
2020 OR General Rate Revision
Data Request Response

Request No.: UG 388 OPUC DR 151

151. Please indicate whether the Company's debt issuances guaranteed by Gill Ranch have been redeemed. If so please provide the terms of retirement or shift of obligations on same.

Response:

A $20 MM 7% variable-rate loan was issued 11/30/2011 by and for Gill Ranch Storage, LLC (GRS) and was repaid 6/6/2014. In addition, a $20 MM 7.75% fixed-rate loan was issued 11/30/2011 by and for GRS and was repaid 12/18/2015; the loan repayment included a make-whole interest provision. Both loans had an original maturity of 11/30/2016.

The subsidiary debt of GRS was nonrecourse to NW Natural. GRS was the only borrower under the notes issued in connection with the debt, and the notes were only secured by collateral in the form of a specified account held in the name of GRS. NW Natural was not a party to the notes and did not obligate itself as a guarantor to the debt.

CASE: UG 388
WITNESSES: MATT MULDOON &
MOYA ENRIGHT

PUBLIC UTILITY COMMISSION
OF
OREGON

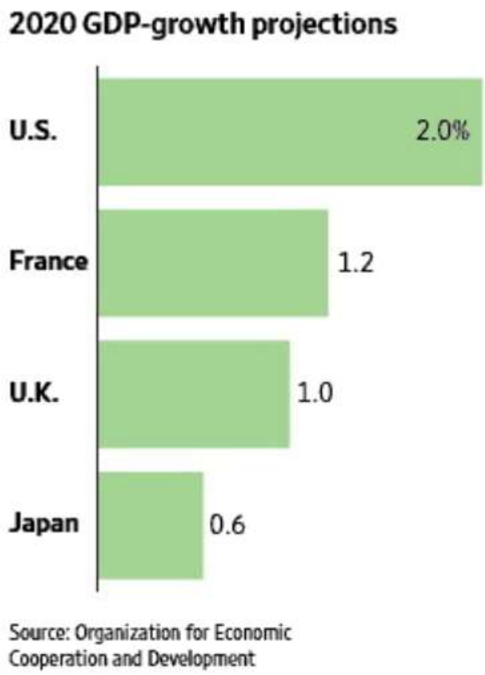
STAFF EXHIBIT 1306
Security Market News
News that Investors Were Seeing

Exhibits in Furtherance
of Testimony in Support of Partial Stipulation

May 13, 2020

2% GDP Growth Is Here to Stay

by Justin Lahart – WSJ Jan. 31, 2020



GDP constrained by **shifting demographics** and **limited productivity gains**

Economists get plenty wrong, but they have been right about one thing: The **U.S. economy** is **stuck in low gear**.

On Thursday, the Commerce Department reported that gross domestic product in the fourth quarter grew at an annualized rate of 2.1% from the third, matching economists' forecasts. It was up 2.3% from the fourth quarter a year earlier, which happens to match the projections that Federal Reserve policy makers made in December 2018.

The details of the report offered a mixed bag of pluses and minuses. The pace of growth in consumer spending, which accounts for about two-thirds of overall U.S. demand, slowed to 1.8% in the fourth quarter from 3.2% in the third. A narrowing trade gap boosted growth, but a sharp decline in the pace of inventory accumulation cut into it.

Left – Tire Company in Iowa.

Most economists, and the **Fed**, **expect GDP growth** will be **stuck around 2% in** the **years to come**. That is **partly** due to **demographics**: The **population** is **growing more slowly** than it used to, **and aging** as well. So growth in the labor force has moderated. And since the labor force produces the stuff that goes into GDP, GDP growth will be constrained as well. The **other factor** is **productivity**, or **how much workers can produce in** a **given** amount of **time**. **Productivity growth** has **slowed markedly** in **recent years**, and there doesn't seem like there is anything that can make it suddenly lurch upward.

It was **hoped**, for example, that the **2017 corporate-tax cut** would **induce companies** to **step up capital investment**, and that would **lead to increased productivity growth**. **Instead**, **business spending** has been **weak**.

Infrastructure plans such as the one House Democrats unveiled earlier this week might provide a short-term spending pop. Even if successful, they would **take time** to

meaningfully boost productivity. Plans to improve education outcomes, and thereby create a more productive workforce, would carry even longer gestation period.

So maybe **2% growth** is all one can reasonably expect for now. From a certain standpoint, that isn't so bad. It appears to be enough, for example, to keep the labor market strong. And it is **better than** the growth that much of the **rest** of the **developed world** seems likely to generate.

But when it comes to the **profits companies generate** **in** the **U.S.,** which **after adjusting for inflation** **can't** easily **grow** **at** a **faster pace** **than** the **economy** **over** the **long haul**, it is a bit of a bummer. Investors who are hoping for something better might be doomed to disappointment

–

2020 Water Outlook: M&A, State-Level Legislative Efforts the Focus for Investors

by Heike Doerr – Regulated Research Associates (RRA)
An affiliate of S&P Global Market Intelligence – Jan. 14, 2020

The water utility sector has been experiencing greater visibility and heightened interest from investors, driven largely by increased acquisition activity. As 2020 gets underway, Regulatory Research Associates, a group within S&P Global Market Intelligence, highlights the 10 topics investors will be focused on across the small sector.

1. Continued acceleration of municipal acquisitions

Water utility executives have been confident that the sector is at the precipice of meaningful **consolidation** and recent acquisition announcements support this view. As indicated in the table below, pending transactions span the country and include a variety of acquirers. **American Water Works** Co. Inc. has **announced multiple acquisitions** over the last two months in **Illinois**, **New Jersey** and **Pennsylvania**, **totaling** over **$100 million**. The largest pending water utility transaction is **Aqua America** Inc.'s **$276.5 million wastewater acquisition** of the **Delaware** County Regional Water Quality Control Authority, which was announced in September 2019 and is **expected** to **close** in **late 2020**.

Selected pending water utility transactions

Announced Date	Seller/ Municipality	State	Buyer	Utility type	Transaction Value ($M)	Connection count
01/02/20	Long Hill Twp, NJ	NJ	American Water	Wastewater	12.7	2,800
12/26/19	Granite City	IL	American Water	Wastewater	18.0	12,500
12/23/19	Kapalua Water Co. and Kapalua Waste Treatment Co.	HI	California Water Services Group	Water/ WW	NA	1,000
12/19/19	Jerseyville	IL	American Water	Water/ WW	43.3	8,200
12/18/19	Royersford Borough	PA	American Water	Wastewater	13.0	1,600
12/17/19	Valley Township	PA	American Water	Water/ WW	21.3	4,800
11/14/19	Borough of Kane Authority	PA	American Water	Wastewater	17.5	2,100
11/06/19	Rainier View Water Co.	WA	California Water Services Group	Water	NA	18,000
10/31/19	T&W Water Service Co.	TX	NorthWest Natural	Water	NA	3,500
10/21/19	Suncadia	WA	NorthWest Natural	Water/ WW	NA	2,800
10/12/19	Wilkerson Water Co. and B roadkiln Beach Water Co.	DE	Middlesex Water Co.	Water	NA	1,000
10/21/19	Suncadia	WA	NorthWest Natural	Water/ WW		2,800
09/26/19	Delaware County Regional Water Quality Control Authority	PA	Aqua America Inc.	Wastewater	276.5	165,000
08/30/19	Hillview Water Co. Inc.	CA	American Water	Water	7.5	1,500
08/05/19	City of Campbell	OH	Aqua America Inc.	Water	7.5	3,200

As of Jan 10, 2020.
NA = not available; WW = wastewater
Source: S&P Global Market Intelligence

2. Is the JEA transaction dead in the water?

Florida municipal water utility JEA halted negotiations to sell the public utility on Dec. 24, 2019, after weeks of political jockeying and city council concerns related to an employee incentive plan, which was set up to give certain employees a cash windfall if the utility were sold. In July 2019, JEA had restarted efforts to evaluate privatization and other ownership structures to improve the company's financial position and address upcoming large capital needs. JEA had considered privatization once before, in late 2017, but those efforts were pre-empted in spring 2018 when objections were raised by the Jacksonville mayor and city council. A third-party consultant put JEA's market-value between $7.5 billion and $11 billion in March 2018.

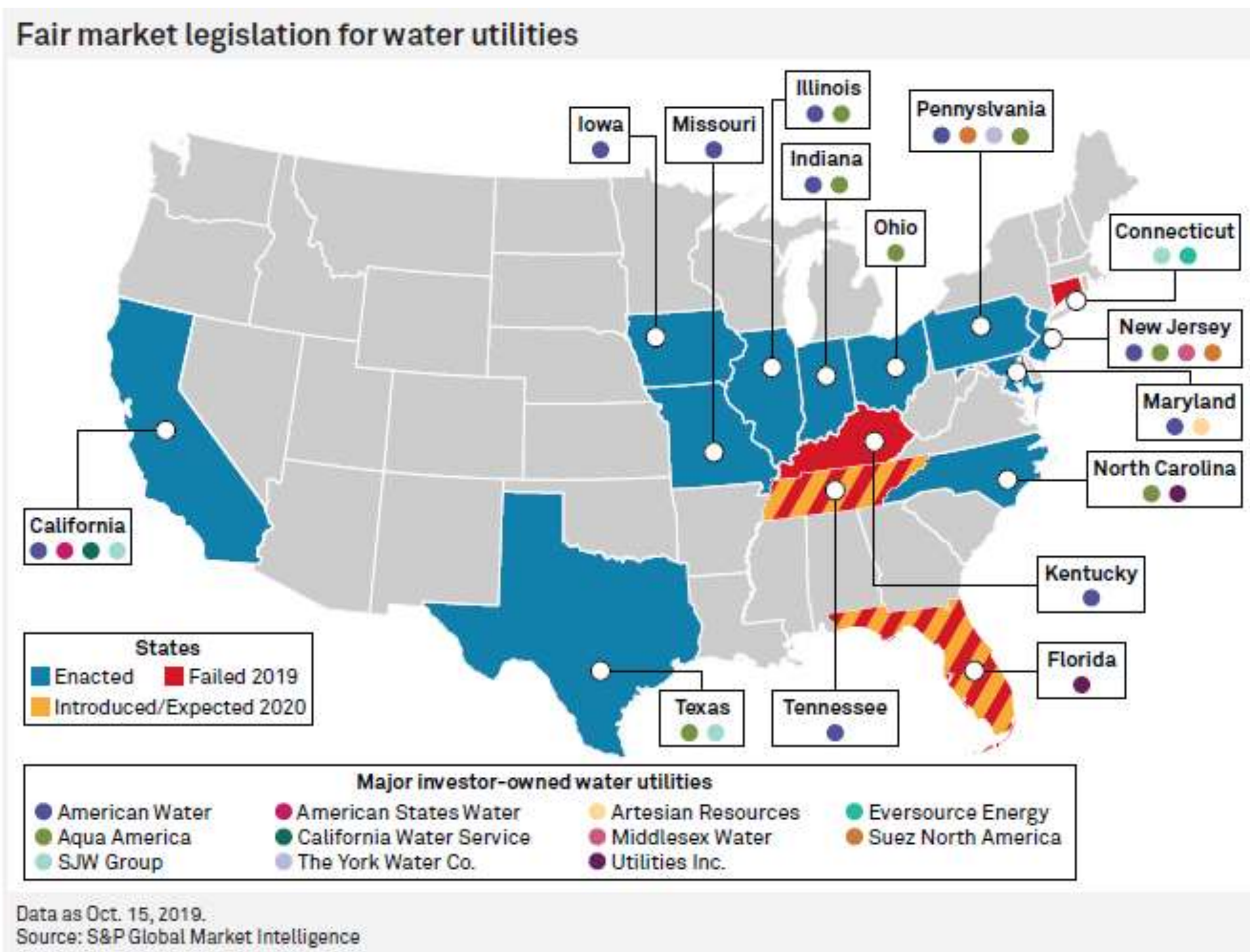
JEA released all 16 bid responses to create more transparency. As reported by the Jacksonville Daily Record, American Water's bid included redacted material explaining how it would provide $3 billion in value to the city. "The company also proposed accelerating JEA's estimated $2.4 billion septic tank phase-out problem. JEA committed $15.5 million toward an initial phase-out program in 2019 to [under-served] Jacksonville neighborhoods."

JEA is the **eighth-largest government-owned utility** and one of the ten largest water and wastewater utilities in the country. Should a transaction of this size be completed in a timely fashion at an attractive valuation, it could prompt other elected officials to consider privatization.

3. Expansion of fair market valuation legislation

Ramping up legislative efforts at the state level has been a focus of the National Association of Water Companies' since CEO Robert Powelson took the helm. Expanding the use of "**fair market value**" **legislation**, which is **meant to facilitate** the **acquisition** of **municipal systems** has been of the greatest interest to investors. This alternative approach **values** the **acquired systems based** on **market value rather than** using an **original cost basis**. That value is **determined by** two or three **independent valuation experts** who provide an **appraisal of** the **assets**. The rate base of the system is determined by the **lower** of the **purchase price or** the **average of** the **appraisals**. **Transaction** and **closing costs incurred by** the **acquiring utility** are **also included** in **rate base**.

Fair market value legislation was **passed** in **Ohio** and **Texas** in **2019**, while similar legislation was introduced but **unsuccessful** in **Connecticut**, **Florida**, **Kentucky** and **Tennessee**. On **Jan. 7, Senate Bill 658** was **introduced** in **Florida**, which would authorize the use of fair market value for water and wastewater acquisitions in the state. Based on comments made by Timothy Hill, the **Tennessee** House of Representatives Commerce Committee Chairman at the October 2019 NAWC Water Summit, the legislation is **expected** to be **re-introduced** during the **2020** session.



4. Additional states expected to establish legislation similar to New Jersey's Water Accountability Act

In recent years, **legislation** has **passed** in **Indiana** and **New Jersey** to impose **testing**, **reporting** and **infrastructure investment requirements** on **water systems**. The legislation is meant to **hold public water systems accountable** for **making infrastructure improvements** and **conducting regular inspections**. The devil is in the details, however, and implementation of such rule making will determine its effectiveness in compelling cities to make necessary disclosures and system improvements.

Though the legislation passed in New Jersey in July 2017, the specifics, which are to be determined by the New Jersey Department of Environmental Protection have not been disclosed and the timing of such remains unclear.

Implemented properly, legislation that increases the transparency of water operators could facilitate acquisition opportunities for the larger investor-owned utilities, as **some municipal systems** and **smaller private utilities may not be able** to **comply** with **new testing** and **reporting requirements**.

5. Will lofty valuations remain?

2019 produced another year of banner **stock** performance for RRA's **water utility** group, as the companies in the group **appreciated 25.9% on average**. Interestingly, the two smallest water utilities mark the end-points of the 2019 performance range among RRA's 56-company energy and water utility group, with Artesian Resources Corp. increasing just 6.7% while The York Water Co. witnessed the highest stock appreciation across the group 43.8%.

Investors unfamiliar with the niche water utility sector can be a bit perplexed by the **premium valuation** afforded this small group. **Water utilities currently trade at** a rich **29.7x average price-to-earnings**, or **P/E, multiple based on 2021 earnings estimates**, **near** the **high end** of their **historical trading range**. By contrast, **electric** utilities trade at a **2021 P/E** multiple of **19.4x**, and multi-utility companies trade at 19.0x. The **valuation gap between these groups and** the **natural gas** utility sector, which has also historically also traded at a premium, has **narrowed**, and **natural gas utilities currently trade** at an average **20.4x** for **2021.**

Historically, electric utilities have traded at **P/E multiples** in the low teens, gas utilities have traded in the **high teens**, and **water** utilities have traded in the **low to mid-20s**. While natural **gas** utilities have also **historically traded at** a **premium to** the **electric** sector, the premium has been within a narrower range as the trading patterns of the groups are more similar. The utilities that comprise the multi-utility group have a diverse set of business models, and their valuation has been confined to a band between the electric and natural gas average multiples.

A variety of industry **drivers** account for this water utility premium, which is not a new phenomenon. **Historically**, **steady** and **accelerating capital expenditure programs**, **favorable dividend policies**, limited investable opportunities and the **potential for** a **takeover** all factored into the sector's higher valuation. **Recently**, the sector's **opportunity** to **meaningfully grow via municipal acquisitions** and interest from environmental, social and governance investors have also **set** the **water** utility group **apart** from the other utility subsectors.

Water utility market data

Company	Ticker	Price 01/09/20 ($)	Market cap. ($M)	Avg. daily volume, LTM (M)	Price/Earnings (x) 2020E	Price/Earnings (x) 2021E	Dividend Rate ($)	Dividend Yield (%)	Dividend Payout (%)
American States Water	AWR	83.91	3,091	0.205	38.8	36.6	1.22	1.45	59.0
American Water Works	AWK	122.13	22,078	0.970	31.7	29.0	2.00	1.64	55.3
Aqua America	WTR	46.73	10,086	1.267	29.3	27.7	0.94	2.01	63.2
Artesian Resources Corp.	ARTN.A	36.47	339	0.013	NA	NA	1.00	2.74	NA
California Water Service Group	CWT	49.73	2,394	0.237	31.8	29.3	0.79	1.59	57.7
Middlesex Water Co.	MSEX	61.43	1,071	0.061	30.6	28.9	1.03	1.67	52.4
SJW Group	SJW	68.59	1,952	0.123	29.9	26.8	1.20	1.75	60.5
The York Water Co.	YORW	44.41	577	0.026	NA	NA	0.72	1.62	NA
Water utility average					**32.0**	**29.7**		**1.81**	**58.0**

As of Jan. 10, 2020.
LTM = last-12-months; NA = not applicable
Source: S&P Global Market Intelligence

6. Increased transparency, as companies cater to ESG investors

In recent years, **ESG investors** have started to take note of the **water** sector as this group has **scored favorably** as **stewards of** a **critical natural resource**. While the largest utilities have been publishing corporate social responsibility reports for a few years, the smaller water utilities have begun refining their communication on sustainability and governance to similarly attract this investor base.

7. Regulatory activity

Meaningful California rate cases are expected to conclude for American Water subsidiary California American Water Co., or CAW, and California Water Service Group's largest subsidiary California Water Service Co., or CWS, during 2020.

SUEZ Water NA has rate cases of note pending in New York and Delaware.

American Water recently filed a base rate case in New Jersey and is expected to file additional base rate cases in Missouri and Pennsylvania during 2020.

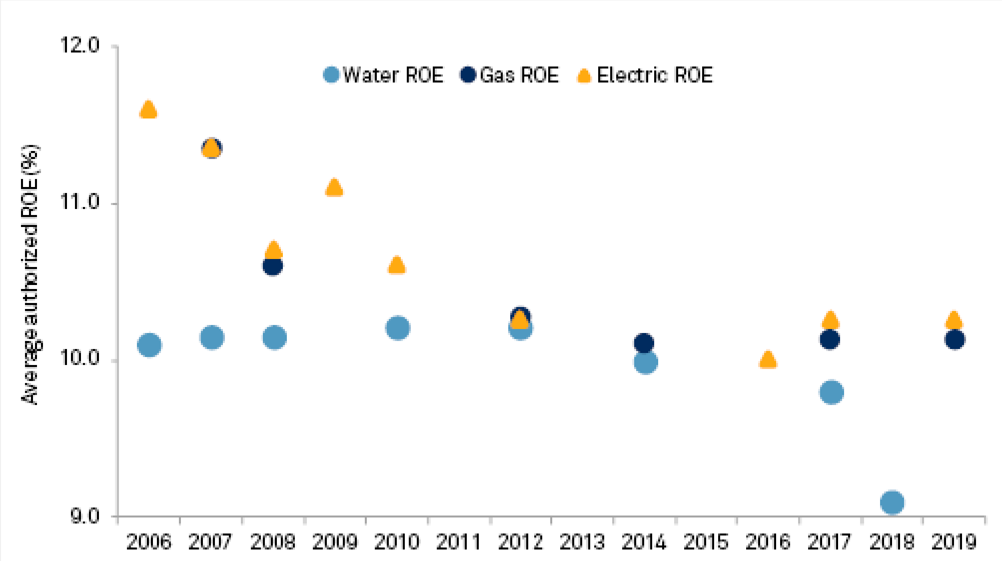
Aqua America Inc. doesn't have any material rate cases currently pending, however, based on the company's historical rate case cycle, Regulatory Research Associates expects the company to file in North Carolina and Ohio during the year.

8. California cost of capital proceeding

In additional to CAW and CWS, American States Water Co. subsidiary Golden State Water Co. and SJW Group subsidiary San Jose Water Co. are expected to file their cost of capital proceedings in May. On March 22, 2018, the California Public Utilities Commission approved the companies last cost of capital authorizing ROE's ranging from 8.9% to 9.2%. This ROE was well below the average ROE authorized water utilities in rate cases decided in 2017. As shown below, the **water utilities** have been **authorized ROEs well below** that of **electric and** natural **gas** utilities, which have remained above 10.0%.

In December 2019, the PUC approved 2020 cost of capital parameters for the state's largest energy utilities, keeping returns on equity unchanged rather than increasing them to account for wildfire equity risk premiums requested by some utilities.

California average authorized ROE comparison



As of Jan. 13, 2020.
Source: S&P Global Market Intelligence

9. Military Base Contracts: American Water and American States Water go head to head

At American Water's Dec. 11, 2019, analyst day, management disclosed that it was competing in five different **requests for proposals**, or **RFPs**, **from** the **U.S. government** related to **long-term contracts** for **various military installations**. At an investor event the following day, Robert Sprowls, CEO of American States Water indicated that investors could assume the company was also a bidder on any pending military RFPs.

Most recently, it has been American Water that has been awarded these contracts. Effective September 2019, the company began operating the **Joint Base San Antonio** in Texas and the **United States Military Academy** at **West Point**, N.Y. **Together**, these **50-year contracts** are expected to aggregate to **$967 million** in **revenue**. **American Water currently operates 16 military installations** across the country.

American States' non-regulated business, American States Utility Services Inc., or **ASUS**, **manages water** and **wastewater systems** for **11 military bases**. Similar to American Water, ASUS operates, maintains and performs construction activities under **50-year, fixed-price contracts**. ASUS' most **recently contract** win was a contract for **Fort Riley** in **Kansas**, which was awarded in Sept. 2017 and **valued at $681 million over the 50-year period**.

10. Aqua America's new identity

What will **Aqua** call itself once **30%** of the company's **rate base** is **natural gas utility**? Aqua America is **close** to **completing** the **proposed acquisition** of **PNG** Cos. LLC – which **includes Peoples Natural Gas** Co. LLC, **Peoples Gas** Co. LLC **and Delta Natural Gas** Co. Inc.

In a recommended decision issued Oct. 28, 2019, a Pennsylvania Public Utility Commission administrative law judge concluded that Aqua America's acquisition was "in the public interest" and "supported by substantial evidence." There is no statutory time frame within which the PUC must render its final decision; however, a decision could be issued at the next public meeting, scheduled for Jan. 16, 2020. Assuming the PUC approves the transaction, the company **expects** to **close** in early **2020**.

This transaction marks the **first acquisition of** a **gas** utility **by** an **investor-owned water utility** and shifts the water utility's profile, to be a largely Pennsylvania-based water and natural gas utility. This is not the first time Aqua America has undergone an identity transformation. Prior to the acquisition of AquaSource in 2003, which expanded the company's footprint outside of the Mid-Atlantic region, the company had been known as Pennsylvania Suburban Co.

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Chesapeake Starts Senior Notes Exchange Offer

by Dyna Mariel Bade – S&P Global Market Intelligence – Jan. 13, 2020

Chesapeake Energy Corp., NYSE **CHK**, is **offering** to **exchange $45.9 million** of **unregistered 8.00% senior notes** due 2026 for the same amount of registered senior notes.

The exchange notes will have the **same terms** and be issued under the **same indenture as** the **outstanding notes**. The **corporation said** it **will not receive any proceeds from** the **exchange offer**, according to a Jan. 10 SEC filing.

There is no final expiration date yet for the offer.

Chesapeake in April 2019 issued $918.5 million of the senior notes due 2026 and entered a registration rights agreement, under which it agreed to complete an exchange offer for the notes on or before April 2.

Chesapeake focuses on the **exploration** and **production** of **oil, gas and NGLs in** the **U.S.**

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Chesapeake Utilities to Sell Remaining $50M of Shelf Notes

by Maryam Adeeb, S&P Global Market Intelligence – Jan. 17, 2020

Chesapeake Utilities Corp. submitted a formal request to PGIM Inc., formerly known as Prudential Investment Management Inc., inviting the latter and other interested parties to purchase up to **$50 million** of the company's **unsecured senior promissory notes** by July 15, **under** an **amended private shelf agreement**.

Under the amended agreement that took place in September 2018, the company was allowed to request Prudential and other buyers to purchase up to $150 million of its unsecured promissory notes, over the period until Aug. 20, 2021.

In **August 2019**, the company **issued $100 million** of the notes, leaving $50 million of the notes available for purchase during the remainder of the term.

The company plans to use **proceeds** from the issuance of the new shelf notes to **reduce short-term borrowings under** its **revolving credit facility** and **lines of credit**, as well as to **fund capital expenditures**, according to a filing.

These notes will bear an **interest** rate of **3% per annum** which will be payable quarterly starting Oct. 15.

Meanwhile, they **require annual principal payments** of **$5 million starting July 15**, **2026**, while the **entire outstanding principal balance** will be **due** July 15, 2035.

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A Deep Dive into US Gas ROE Authorizations in 2019

by Lisa Fontanella – Regulatory Research Associates (RRA)
An Affiliate of S&P Global Market Intelligence – Feb. 18, 2020

The overall average authorized gas return on equity ticked up in 2019 despite a **declining interest rate environment**. Based on data gathered by Regulatory Research Associates, a group within S&P Global Market Intelligence, the average ROE authorized gas utilities was **9.71% in rate cases decided in 2019**, versus **9.59% in 2018**. There were 32 gas ROE determinations in 2019, versus 40 in 2018.

While edging slightly upward, the average gas ROE is still hovering around historic lows, and **with** the **recent rate cuts by the U.S. Federal Reserve**, **lower authorized returns may be on** the **horizon**. The **average allowed ROEs** for the **gas sector** have been **trending downward since** the **1980s**, **consistent with** the **declining interest rate environment**. In addition, the **proliferation of automatic adjustment and investment recovery mechanisms that reduce the business risk of a utility** have been cited, at times, as a contributing factor by commissions in authorizing lower ROEs.

There were 32 gas ROE determinations in **2019** rendered in 19 states, including in Louisiana by the New Orleans City Council. The **ROE** determinations authorized by state utility commissions during this period ranged **from 9.0% to 10.25%,** with a **median** of **9.70%** and an **average** of **9.71%. Three public utility commissions** had **ROE** authorizations of **10% or above**: **California**, **Georgia** and **Wisconsin**. Only one commission, **New York**, had an **ROE authorization** of **9%**, and there were no commissions that authorized an ROE below 9%.

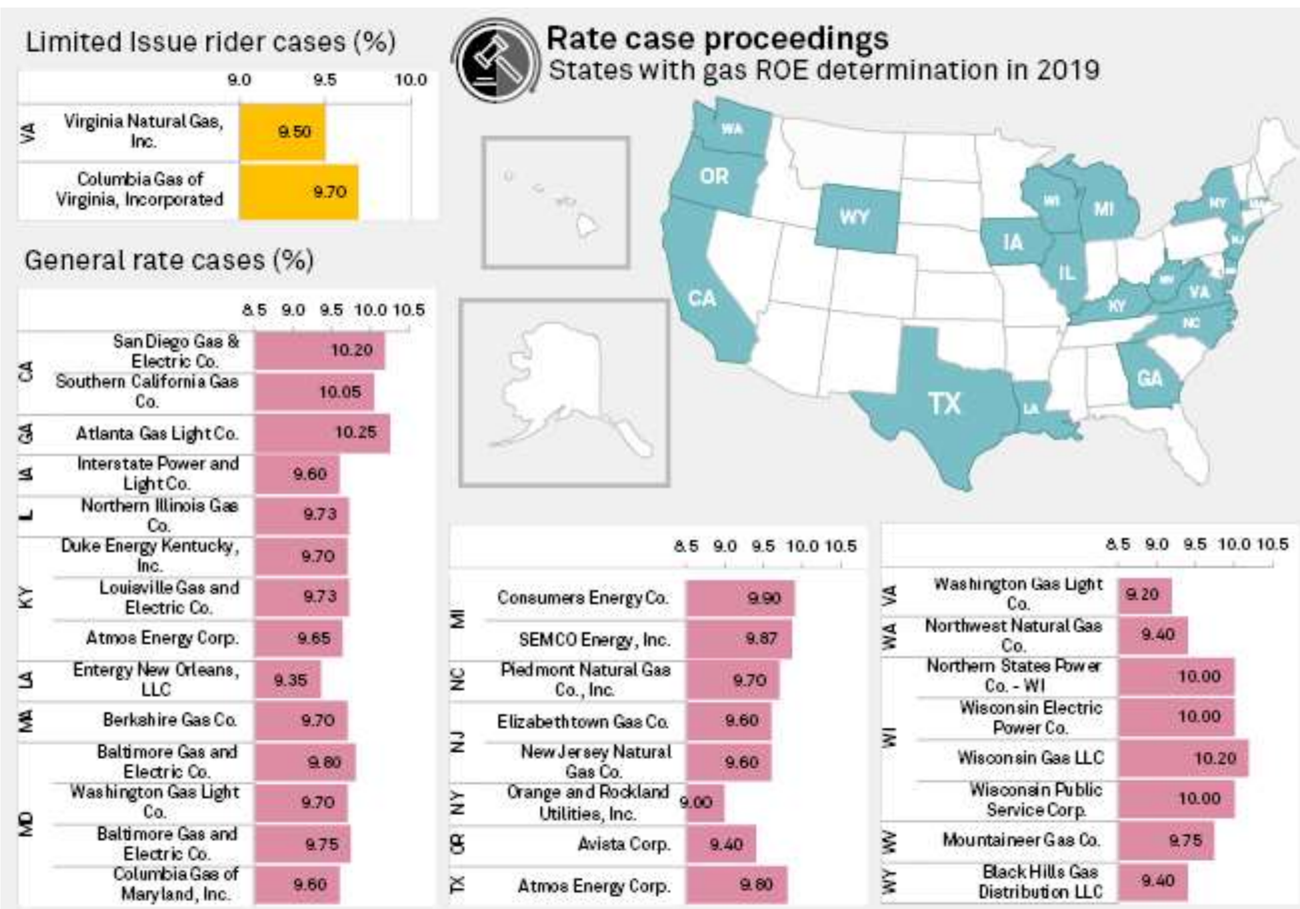
Of the 32 ROE determinations in 2019, 30 were authorized in general rate cases and two were awarded in limited-issue rider proceedings. In 2019, 20 of the 32 cases were settled and 12 were fully litigated.

The highest ROE authorized in a traditional gas distribution base rate case decided in 2019 was 10.25%, authorized by the Georgia Public Service Commission for Southern Co. subsidiary Atlanta Gas Light Co. in December 2019. Prospectively, Atlanta Gas Light's earnings are to be evaluated against an ROE range of 10.05% to 10.45%, with the disposition of any earnings above 10.45% to be determined by the commission.

The company's rates will continue to be governed by the Georgia Rate Adjustment Mechanism with a 5% cap on any base rate increase requested in 2021. In Georgia, equity return authorizations have generally been above prevailing industry averages at the time established. In the instant case, the PSC found a 10.25% ROE to be an "appropriate, and just and reasonable return on common equity" for the utility.

The second-highest ROE determination for this group was 10.2%, authorized by the California Public Utilities Commission for Sempra Energy's San Diego Gas & Electric Co., or SDG&E, and by the Public Service Commission of Wisconsin for WEC Energy Group Inc.'s Wisconsin Gas LLC.

For SDG&E, the 10.2% ROE was adopted as part of the company's 2020 ratemaking cost of capital, or COC, proceeding that established the returns for the utility for a three-year term effective Jan. 1, 2020. This was the first fully litigated COC proceeding since new equity return parameters and capital structures were authorized by the PUC in 2012. In 2017, the PUC adopted a memorandum of understanding regarding 2018 and 2019 COC issues.



Data compiled Feb. 12, 2020. Reflects return authorizations in 2019.
Source: Regulatory Research Associates, a group within S&P Global Market Intelligence

SDG&E initially requested an electric and gas ROE of 14.3% composed of a 10.90% base ROE and a 3.40% premium for wildfire liability risk. In August 2019, SDG&E filed supplemental testimony to reduce its requested ROE from 14.3% to 12.38%, including a lower revised premium for wildfire risk to reflect the impacts of wildfire legislation.

According to the PUC, adoption of a 10.2% equity return "is reasonably sufficient to assure confidence in the financial soundness of the utility and to maintain investment grade credit ratings while balancing the interests between shareholders and ratepayers."

In California, ROE determinations for the state's largest utilities have occurred **outside of general rate cases**, **in COC proceedings**. In 2008, the PUC established a **three-year cycle** and a COC mechanism that provides for **possible annual adjustments in** the **intervening years based on movements** in **utility bond yields**. Over the last several years, PUC ROE determinations have been above the prevailing industry averages at the time established.

For Wisconsin Gas, the 10.2% ROE was adopted by the Wisconsin PSC following a settlement. According to the PSC, a 10.2% ROE "strikes a reasonable balance between the needs of investors with the needs of consumers."

The lowest ROE authorized in a traditional gas base rate case decided during 2019 was 9%, authorized by the New York Public Service Commission for Orange and Rockland Utilities Inc. in March following the adoption of a settlement that provided for a three-year rate plan for the company's operations covering the period Jan. 1, 2019 through Dec. 31, 2021. The PSC has a long history of adopting settlements containing multifaceted, multiyear rate plans that provide regulatory predictability during the course of the plan. The settlement approved in the 2019 case contains earnings-sharing provisions if the company's earned return exceeds 9.6%. The PSC noted that the 9% ROE reflects a premium that "adequately recognizes the increased financial and business risks inherent in setting rates over a multi-year period." Orange and Rockland Utilities is a subsidiary of Consolidated Edison Inc.

The second-lowest ROE in this group, at 9.2%, was authorized in December 2019 by the Virginia State Corporation Commission for AltaGas Ltd. subsidiary Washington Gas Light Co. The 9.2% ROE is to be used on a prospective basis to assess future over- or under-earnings, accrue allowance for funds used during construction, and calculate the revenue requirement for future adjustments to the Steps to Advance Virginia Energy, or SAVE, infrastructure program.

There were two ROE determinations rendered in limited-issue proceedings, both decided by the Virginia SCC. For **Virginia** Natural Gas Inc., a 9.5% ROE was authorized by the SCC under the company's SAVE infrastructure program. For Columbia Gas of Virginia Inc., a 9.7% ROE was authorized under the company's SAVE program.

The **SAVE rider** was authorized under legislation enacted in 2010 that permits a natural gas utility that invests in natural gas facility replacement projects to recover, in the form of a SAVE rider, a return on investment, a revenue conversion factor, depreciation, property taxes and carrying costs on over/under-recovery of these costs. Eligible **infrastructure replacement** is defined as natural gas facility replacement projects that **enhance safety** or **reliability by reducing system integrity risks** associated with customer outages, corrosion, equipment failures, material failures or natural forces; do not increase revenues by directly connecting the infrastructure replacement to new customers; reduce or have the potential to reduce greenhouse gas emissions; commenced on or after Jan. 1, 2010; and were not included in the natural gas utility's rate base in its most recent rate case.

2019 gas return on equity authorizations
Delivery only cases

Companies	State	Date of decision	ROE (%)	Decision type
Atlanta Gas Light Co.	GA	12/19/19	10.25	Fully Litigated
San Diego Gas & Electric Co.	CA	12/19/19	10.20	Fully Litigated
Wisconsin Gas LLC	WI	10/31/19	10.20	Settled
Southern California Gas Co.	CA	12/19/19	10.05	Fully Litigated
Northern States Power Co. - WI	WI	09/04/19	10.00	Settled
Wisconsin Electric Power Co.	WI	10/31/19	10.00	Settled
Wisconsin Public Service Corp.	WI	10/31/19	10.00	Settled
Consumers Energy Co.	MI	09/26/19	9.90	Fully Litigated
SEMCO Energy, Inc.	MI	12/06/19	9.87	Settled
Atmos Energy Corp.	TX	05/21/19	9.80	Settled
Baltimore Gas and Electric Co.	MD	01/04/19	9.80	Fully Litigated
Baltimore Gas and Electric Co.	MD	12/17/19	9.75	Settled
Mountaineer Gas Co.	WV	12/26/19	9.75	Settled
Louisville Gas and Electric Co.	KY	04/30/19	9.73	Settled
Northern Illinois Gas Co.	IL	10/02/19	9.73	Fully Litigated
Berkshire Gas Co.	MA	01/18/19	9.70	Settled
Duke Energy Kentucky, Inc.	KY	03/27/19	9.70	Settled
Piedmont Natural Gas Co., Inc.	NC	10/31/19	9.70	Settled
Washington Gas Light Co.	MD	10/15/19	9.70	Settled
Atmos Energy Corp.	KY	05/07/19	9.65	Fully Litigated
Columbia Gas of Maryland, Inc.	MD	12/18/19	9.60	Fully Litigated
Elizabethtown Gas Co.	NJ	11/13/19	9.60	Settled
Interstate Power and Light Co.	IA	12/18/19	9.60	Settled
New Jersey Natural Gas Co.	NJ	11/13/19	9.60	Settled
Avista Corp.	OR	10/08/19	9.40	Settled
Black Hills Gas Distribution LLC	WY	12/11/19	9.40	Settled
Northwest Natural Gas Co.	WA	10/21/19	9.40	Settled
Entergy New Orleans, LLC	LA	11/07/19	9.35	Fully Litigated
Washington Gas Light Co.	VA	12/20/19	9.20	Fully Litigated
Orange and Rockland Utilities, Inc.	NY	03/14/19	9.00	Settled
Average			**9.72**	
Median			**9.72**	
Limited-issue rider cases			ROE (%)	
Columbia Gas of Virginia, Incorporated	VA	12/06/19	9.70	Fully Litigated
Virginia Natural Gas, Inc.	VA	08/29/19	9.50	Fully Litigated
Average			9.60	
Median			9.60	
All gas cases			ROE (%)	
Average			**9.71**	
Median			**9.70**	

Data compiled Feb. 12, 2020. Reflects return authorizations in 2019.
Source: Regulatory Research Associates, a group within S&P Global Market Intelligence

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Fed Rate Cuts May Fall Short of Stabilizing Markets

by John Lonski – Chief Economist
Moody's Capital Markets Research, Inc. – Feb 28 2020

Markets are **trying** to "**price-in**" an **event for which** there is **no readily known precedent**. Volatility will rule until **COVID-19**-related risks reverse course.

Since COVID-19 first pressured U.S. equities following January 17's close, the market value of U.S. common stock as measured by the old Wilshire Index has plunged by 9.3%, or by an estimated $3.2 trillion. Among the indices that have fared worse than the overall market since January 17 are the deeper setbacks of 14.5% for the Dow Jones Transportation Average, 14.1% for the KBW bank stock price index, 11.7% for the PHLX semiconductor share price index and 10.3% for the Russell 2000 stock price index for small- to mid-sized companies. Among the indices that have fared better than the overall market since January 17 are the shallower declines of 7.7% for the NASDAQ, 7.0% for the PHLX index of housing sector-share prices, and 3.5% for the Dow Jones Utility Average.

Nevertheless, even with the latest drop, the market value of U.S. common equity needs to sink by another 22% if it is to return to its now 34-month low of December 24, 2018.

The dive by share prices revealed a flight from risk that explains a deep drop by Treasury yields. **From January 17 to February 27**, the five-year Treasury yield sank from 1.62% to 1.09%, the **10-year Treasury yield plunged from 1.82% to 1.28%**, and the 30**-year Treasury yield fell from 2.28% to 1.78%.**

The now deep discounts of the five- and 10-year Treasury yields to the 1.63% midpoint for the overnight federal funds rate reflect an **increase in perceived recession risks** that **may soon be reversed by** a **series of Fed rate cuts**. As inferred from the CME Group's FedWatch Tool, the futures market recently assigned an implied probability of 59% to a March 18 rate cut, which was up considerably from February 20's 9% implied probability. Regarding the Federal Open Market Committee's April 29 meeting, the recent implied probabilities are 88% for a less-than-1.63% fed funds midpoint and 42% for a less-than-1.38% midpoint. For the FOMC's June 10 meeting, the implied likelihood of a less-than-1.38% fed funds midpoint jumps up to 68%.

Federal Reserve policymakers must now deal with unprecedented risks. By themselves, Fed rate cuts will not remedy the COVID-19 virus.

What the Fed can do is help to facilitate access to financial capital for those households, businesses and local governments that incur cash flow problems owing to the virus. The Fed will attempt to prevent a highly communicable virus from sparking a ruinous bout of financial contagion.

Lower Yields Spur Home-buying, but Core Business Sales Still Struggle

Lower Treasury bond yields have supplied a lift to home sales. January's seasonally-adjusted pace for new home sales soared by 7.9% monthly and by 18.6% year-over-year to an annualized pace of 764,000 units, which was the liveliest month since the 778,000 units of July 2007. Also, January's index of pending sales of existing homes jumped by 5.2% from the prior month and advanced by 6.7% from January 2019 (where the latter increase was prior to seasonal adjustment).

However, recent data suggest that the year-over-year increase of core business sales slowed from the 1.2% of 2019's final quarter to 0.9% for January 2020. Of course, the strains of COVID-19 will add to the difficulty of simply maintaining fourth-quarter 2019's lackluster pace.

Lowest Long-Term Single-A and Baa Yields since Early- to Mid-1950s

The latest dive by benchmark Treasury yields should promote the refinancing of outstanding investment grade corporate debt. The lengthening of debt maturities at lower interest rates is constructive for corporate credit quality. To the degree that maturities are longer and interest expense is lower, higher aggregate ratios of corporate debt to various measures of corporate earnings may be overstating any loss of credit quality to the leveraging-up of corporate balance sheets.

Though the **spreads over** the **30-year Treasury** for Moody's Analytics' long-term industrial company bond yields **widened** from January 17's 102 basis points for single-A and 171 bp for Baa to February 26's 114 bp for single-A and 192 bp for Baa, the **yields declined** from 3.30% to 2.96% for single-A and from 3.99% to 3.74% for Baa. The single-A industrial yield is now the lowest since 1953 and the Baa industrial yield is among the lowest since 1956.

VIX Warns of Wider than 750 bp High-Yield Bond Spread

COVID-19 risks have weighed more heavily on the high-yield corporate bond market compared to investment-grade. Not only has a composite high-yield bond spread widened from January 17's 362 bp to February 26's 468 bp, but the underlying composite speculative-grade bond yield has soared from 5.26% to 5.85%, respectively. Still, the latter was less than its 6.20% average of calendar-year 2019.

The current widening of the high-yield bond spread falls considerably short of what is suggested by the lift-off of equity market volatility. The VIX has soared from a January 17 close of 12.1 points to February 27's 35.2 points. The latter topped each close for the VIX since the 36.1 points of December 24, 2018, or when the market value of U.S. common stock formed its last major bottom and a composite high-yield bond spread equaled 558 bp.

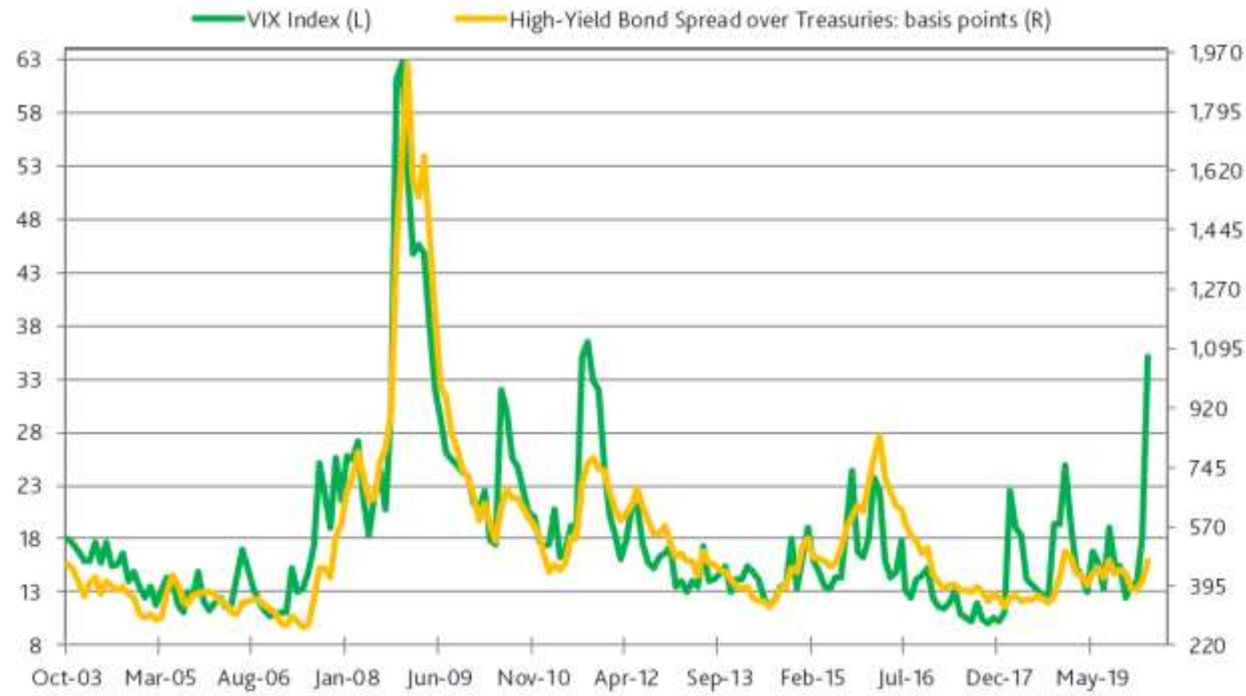
By contrast, February 26's high-yield bond spread of 468 bp was atypically thin given the accompanying VIX of 27.6 points. As derived from a sample that begins in October 2003, a high-yield bond spread of 468 bp is slightly above its 447 bp median, while a VIX of 27.6 points is far above its 15.7-point median. More specifically, a VIX of 27.6 points is in the sample's top decile, while the thinnest width of the high yield bond spread's top decile is 775 bp.

As statistically inferred from the historical record, a VIX of 27.6 points has been associated with a 720 bp mid-point for the high-yield bond spread, while a VIX of 35.2 points has been linked to a high-yield spread of nearly 1,000 bp.

High-Yield Spread Has Defied Elevated VIX Four Times During Current Upturn

Figure 1: High-Yield Bond Spread Has Yet to Mimic Latest Lift-Off by the VIX

sources: CBOE, Moody's Analytics



Nevertheless, the high-yield spread does not always widen in response to a substantially higher VIX. For example, despite how the VIX jumped sharply vis-a-vis the high-yield spread during (i) October 2018-December 2018, (ii) February 2018–April 2018, (iii) August 2011–November 2011, and (iv) May 2010-June 2010, the high-yield spread did not swell appreciably and the VIX would sink shortly thereafter.

Figure 2: Four Episodes of Current Economic Recovery Where High-Yield Spread Predicted by VIX was More than 175 bp Above Actual Spread

Episode	Average VIX	Average High-Yield Bond Spread Predicted by VIX	Actual Average High-Yield Bond Spread	Average % Change by Market Value of Common Stock 12 Months Later	Average High-Yield Bond Spread 12 Months Later
	points	*basis points*	*basis points*	*%*	*basis points*
	1	*2*	*3*	*4*	*5*
May 2010-June 2010	30.9	889	655	20.1%	500
August 2011–November 2011	34.1	979	742	17.6%	565
February 2018–April 2018	19.9	578	359	5.1%	419
October 2018-December 2018	21.2	615	428	13.8%	419

Credit Markets Review and Outlook

Twelve months following the four episodes of a very high VIX and a much lower than expected high-yield bond spread, the market value of U.S. common stock climbed higher by 14%, on average, and the high yield bond spread showed an average year-to-year decline of 72 bp. Still, there is no assurance that the high-yield bond spread will continue to show only a muted response to a VIX that exceeds more than 90% of its earlier readings.

Prior to the current business cycle upturn, August-September 2007 was the only stretch where the high yield spread was much thinner than the spread predicted by a relatively high VIX. And unlike the four episodes of the current recovery, the high-yield spread ballooned from its 448 bp average of August- September 2007 to the 850 bp of August-September 2008, while the market value of U.S. common stock averaged a year-over-year plunge of 14.0% for August-September 2008.

August-September 2007's high-yield bond market may have failed to price in the risks recognized by the equity market because of how the start of the Great Recession was mostly the consequence of a collapse by household credit quality, as opposed to being primarily the offshoot of a deterioration of corporate credit quality. Had there been no home mortgage crisis, the high-yield default rate would not have skyrocketed from December 2007's now 38-year low of 1.0% to November 2009's post Great Depression high of 14.7%. Could it be that today's high-yield bond market has y**et to fully price in** the **risks stemming from** a **possibly unprecedented threat to public health**?

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Key Questions for the U.S. Economy in 2020

by Ryan Sweet of Moody's Analytics – Jan 10, 2020

The U.S. economy weakened in **2019** and there were **plenty** of **fears** of a **recession**, but they **didn't come to fruition**. Now, how several key economic questions for the new year are eventually answered could see the economy deviate, for better or worse, from our expectation. Here are those questions. We also provide our confidence level in our projections.

Will a Phase Two trade deal be signed between the U.S. and China?

Projection: **No**

Confidence: **High**

A signing ceremony for the Phase One trade deal is being organized for mid-January. Therefore, the odds are high that it will be put to bed. The Phase One deal appears to resolve some of the easier rifts between the U.S. and China, but it doesn't resolve the main issues behind the trade tensions, including China's intellectual property theft, forced technology transfers, and China's industrial subsidies. The Phase Two deal would likely attempt to tackle some of these main issues, and it will be more difficult to strike a deal in 2020. If the U.S. economy and stock market continue to hold up, President Trump may not have a strong incentive to reach an agreement. China could be more willing if its economy continues to weaken, but Beijing may also want to see how the U.S. presidential election shakes out.

Will the U.S. effective tariff rate increase noticeably?

Projection: No

Confidence: Medium

The U.S. effective tariff rate has likely peaked. The Office of the U.S. Trade Representative recently released a two-page fact sheet around the unsigned Phase

One trade deal. In return for China purchasing more U.S. agricultural products, the U.S. will reduce the tariff rate on $120 billion of goods put in place in September from 15% to 7.5% and will maintain the 25% tariff rate on approximately $250 billion rather than raise it to 30%. With progress toward a final agreement, the U.S. also postponed the tariffs that were scheduled to go into effect on December 15. It seems less likely that the U.S. will impose additional tariffs on China, but they could be threatened throughout the Phase Two process.

The Trump administration has proposed imposing tariffs on other countries, including Brazil and Argentina, though Trump later backed off on his Brazil threat. Even if they are implemented it wouldn't cause a noticeable rise in the effective tariff rate. Also, it doesn't appear likely that the U.S. will impose tariffs on imported autos.

Will U.S. GDP growth be above the economy's potential growth rate?

Projection: **No**

Confidence: **Low**

We **forecast real GDP** to **increase 1.8% in 2020**, a **touch below** our estimate of the **economy's potential growth rate of 2%.** The **risks** to the forecast are **weighted to** the **upside** and center around the potential boost to growth from past easing in financial market conditions.

The economy has become more sensitive to developments in financial markets. To assess the economy's sensitivity to changes in financial market conditions, we used a vector auto-regression model to examine the **relationship** between the **St. Louis Fed Financial Stress Index** and **four economic variables**: **nonfarm employment**, the **personal consumption expenditures deflator excluding food** and **energy**, the **shadow fed funds rate**, and the **Chicago Fed National Activity Index**.

This approach allows us to examine the impulse response of a sudden deterioration in financial market conditions on measures of economic activity. A positive or negative shock to financial market conditions is assumed to have no effect on the economic variables in the first month but rather with a lag.

To determine whether the economy has become more or less sensitive to changes in financial market conditions, we split the data into two subsamples. The first subsample is from 1994 to 2006 and the second is from 2007 to 2019. The selection of these subsamples is arbitrary because of the limitations in the data. The first historical data point for the St. Louis Fed Financial Stress Index is December 1993.

The estimated responses of employment and the Chicago Fed National Activity Index to changes in financial market conditions have been larger since 2007. Similarly, the impact is both larger and more persistent in the second subset than in the first, evidence that the **economy** is more **sensitive** to **financial market conditions**.

Possible explanations are the increased size of the financial sector, financial innovation that expanded the channels entrepreneurs and firms use to raise external capital, increases in leverage, and the enhanced global linkages in financial markets.

Given the improvement in financial market conditions and the lagged impact on the economy, **GDP growth could be stronger than some anticipate in 2020**. **Assuming financial market conditions remain** as **supportive as** they are **today**, **0.5 percentage point could be added to GDP growth** in **2020**.

Will the labor force participation rate continue to increase?

Projection: **No**

Confidence: **Medium**

The labor force participation rate is forecast to decline to 63% by the end of 2020, compared with 63.2% in November 2019 (latest data available) but better than its cyclical low of 62.4%. There is the potential for a larger decline than we expect because demographics remain unfavorable. The median person among baby boomers will turn 66 in 2020, and the youngest person will be in the 55-59 cohort, a cohort when labor force participation rates begin to drop. Therefore, the demographic drag on labor force participation won't be lifting.

Away from the baby boomers, there is still room for improvement in the prime-age labor force participation rate, as it remains below its prerecession peak. The prime-age labor force participation rate has noticeably improved over the past couple of years, but it's been mostly driven by an increase in female participation. The male prime-age labor force participation rate has lagged behind and is nearly a full percentage point below its prerecession peak.

Will the unemployment rate increase?

Projection: Yes

Confidence: Low

The unemployment rate is forecast to average 3.8% in the fourth quarter of 2020, compared with 3.4% in November 2019. Risks favor a lower unemployment rate than what is penciled into our forecast. A key factor is the number of new jobs needed to keep the unemployment rate stable. This estimate is the function of the size of the civilian population, the labor force participation rate, the employment-to-labor force ratio, and the ratio of payroll to household employment. The break-even rate of job growth isn't constant, and the **key determinant** will be the. We estimate that the break-even level should drop below 100,000 per month next year.

Can single-family starts and new-home sales continue to build off their recent improvement?

Projection: Yes

Confidence: Low

Single-family housing starts are forecast increase from 2019 to 2020, but mortgage rates will need to remain low and months supply can't break 6.5 months. We look for only a modest gain in single-family starts in 2020, and it won't be surprising if the year gets off to a slow start. Single-family permits continue to run below starts. Mortgage rates are also key to new-home sales and we expect further improvement in sales in 2020. The mix of construction has been shifting toward more affordable new homes.

Will less trade policy uncertainty cause business investment to rebound meaningfully?

Projection: **No**

Confidence: **High**

Weak business investment in 2019 had more to do with fundamentals than with a spillover cost of the trade tensions between the U.S. and some of its major trading partners. To highlight this, we built a simple model in which real equipment spending is a function of after-tax corporate profits as a share of nominal GDP, the **Baa-Aaa credit spread as** a **proxy for credit conditions**, **trend growth** in the **labor force**, **depreciation**, and a **dummy variable for recessions**. **All** variables were statistically **significant** and had the **correct** signs.

The results were not overly surprising. There is a **strong relationship between after-tax profits and equipment spending**. Since 1950, larger after-tax corporate profits have coincided with capital expenditures contributing more to GDP growth. Given that profits struggled in 2019, this could continue to weigh on capital spending.

Though policy uncertainty may not boost investment, better financial market conditions and an increase in corporate profits' share of nominal GDP should. Therefore, **business investment should improve in 2020**, **but** it **won't be booming**.

Will inflation exceed 2% by the end of the year?

Projection: **Yes**

Confidence: **Low**

Some of the transitory drags on the core PCE deflator should lift in 2020, primarily the weight from financial services prices. Still, it **wouldn't be surprising if core inflation ends 2020 a hair below 2%**. Monthly growth in the core PCE deflator will need to average 0.17% in 2020 to put year-over-year growth in December 2020 at 2%. For perspective, the core PCE deflator rose an average of 0.1% in 2019 (through November).

Will there be a significant acceleration in nominal wage growth?

Projection: No

Confidence: Medium

A traditional wage Phillips curve that uses the unemployment rate as the basis for measuring labor market slack would suggest that wage growth should be much stronger than it is currently. However, a broader measure of labor market slack may be necessary to correctly interpret current conditions. Creating a Phillips curve using the prime-age non-employment rate as opposed to the unemployment rate has fit the data rather well over the last 25 years and would suggest wage growth accelerating further beyond 3%.

By most measures, wages appeared to be making steady progress, reaching year-over-year growth of 3% or better by the end of 2018. The Employment Cost Index, the most reliable measure of wage growth for gauging the business cycle, reached a cyclical high in the fourth quarter of 2018. However, as of the third quarter of 2019, wage growth was essentially unchanged over the prior seven quarters, back to the beginning of 2018. This comes on the heels of a period from the beginning of 2016 through the first quarter of 2018 when wage growth accelerated briskly from 2% to 3%. This stalling of wage growth is consistent with employment growth over the last 12 months being more sluggish than initially reported. Therefore, some of the pressure on wages has decreased and they may improve only modestly in 2020.

Is the Fed going to cut interest rates in 2020?

Projection: **No**

Confidence: **Medium**

Most Fed officials believe monetary policy is in a “good place.” This implies a consensus around the idea that the mid-cycle adjustment has likely been sufficient to help sustain the expansion. Our December baseline forecast has a rate cut occurring next June but this very likely will be removed from the baseline soon.

Will the Fed alter its policy framework?

Projection: **Yes**

Confidence: **Medium**

A **change is coming** but the timing is a little fuzzy. It would make the most sense to announce a change in January, when the Fed normally alters or reaffirms its Statement on Longer-Run Goals and Monetary Policy Strategy, but we don’t think the Fed will be ready in a few weeks to make that change. Still, sometime in the second half of the year it won’t be surprising if it does make an announcement that it is adopting **average inflation targeting**.

Average inflation targeting should be fairly easy to communicate and prescribes that if inflation has been below target for a period, then the Fed will aim for a stretch of above-target inflation, so that inflation averages the target over the cycle. Though there has not been any formal change in the central bank’s inflation-targeting approach, it could be influencing some of the Fed officials’ views now; a number of policymakers have publicly voiced their support for allowing inflation to run above their 2% objective for a time. Given Fed rhetoric, it seems policymakers would aim for 2.25% inflation during expansions. If the Fed were to adopt this approach next year, it would move the goal posts and likely delay rate hikes even further out in our baseline, which has a hike occurring in the first half of 2021.

Will the U.S. enter recession?

Projection: **No**

Confidence: **Medium**

We looked at the **catalysts of recessions** and broke them down, highlighting several causes in the **post-WWII era**:

- Inventory imbalances
- Oil supply shocks
- Overheating
- Monetary policy error
- Financial imbalances
- Fiscal tightening

None of these appear overly threatening now. Our probability of recession models have shown an increase in the probability of a recession in 2020 but they are nowhere near raising a red flag.

Is this the year productivity finally breaks out?

Projection: **No**

Confidence: **Medium**

Trend U.S. productivity growth has firmed recently but remains unimpressive. We don't believe a tight labor market is sufficient to provide a big boost to productivity growth. In our past work, we used a vector auto-regression model to examine the relationship between business investment and unit labor costs. This approach allows us to examine the impulse response of a sudden acceleration in labor costs, but the boost to business investment was around 0.5 percentage point. Therefore, stronger wage growth will likely boost business investment, but the impact is likely to be modest. This would suggest that a **quick turn in productivity growth is unlikely**. Stronger productivity is coming but it may not be in 2020. **Business investment in intellectual property** has been strong over the past couple of years, and this **boosts productivity but with** a **fairly long lag**.

Will President Trump win re-election?

Projection: **Yes**

Confidence: **Medium**

Our Presidential Election Model currently has Trump easily winning re-election. The economic implication the outcome of the election is for 2021 but our initial thoughts are if Trump is re-elected, he is likely to double down on his current economic policies. This means more deficit-financed tax cuts and government spending increases, renewed trade tensions with China and other nations, and tougher immigration policies.

Also, he will likely not reappoint Fed Chairman Jerome Powell, replacing him with someone who shares Trump's views on monetary policy.

However, **if** a **Democrat** is **elected**, **economic policy** will be **flipped on** its **head**. At a minimum, the Trump tax cuts for higher-income and wealthy households will expire as they are set to do under current law in the next presidential term. While a

Democratic president will take a hard stance in trade negotiations with China, the tariff wars are unlikely to continue.

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Moody's Predicts Green, Sustainable Bond Market Will Hit Record $400B in 2020

by Esther Whieldon – S&P Global Market Intelligence – Feb. 3, 2020

The **green, social and sustainability-related bond market** is continuing to grow and **could hit** a combined record of **$400 billion** in **2020**, **up from $323 billion** in **2019**, Moody's Investors Service analysts said in a Feb. 3 report.

"A heightened focus on climate action by governments and the financial sector will drive further growth and innovation" in the market, Moody's said.

But those specialty products comprise only a small portion of the total market. Green, social and sustainability bonds accounted for **4.5% of total global bond issuance** in **2019**, **up from 3%** in **2018**, Moody's said.

As in the past, **green bonds**, in which proceeds are dedicated to environmentally friendly projects **such as renewable generation** or **energy efficiency**, will continue to **dominate** the **space** in **2020** with a **projected $300 billion in issuances**. Social- and sustainability-focused bond market issuances are forecast to total $25 billion and $75 billion, respectively. Sustainability-linked loans hit $134 billion globally in 2019, up from $34 billion in 2018. The rate for sustainability-linked loans is tied in some way to the borrower's performance on environmental, social or governance criteria or toward achieving one or more of the United Nations' sustainable development goals.

Moody's used data from the Climate Bonds Initiative to calculate bond totals, which excluded bonds that dedicated more than 5% of the proceeds to non-green uses or that otherwise did not align with the initiative's standards. To calculate other sustainable debt issuances, including sustainability-linked loans, Moody's turned to Dealogic.

Regarding where green bond proceeds are being directed, energy and building investments comprised the majority share, followed by transportation and water projects.

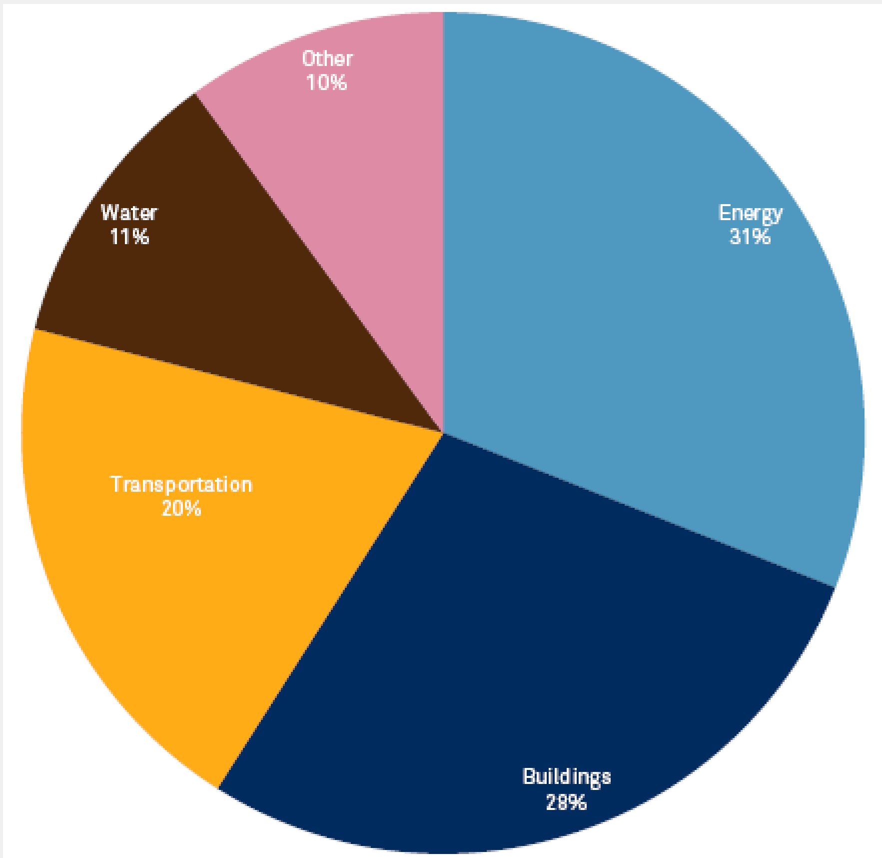
Financial and nonfinancial corporations drove most green bond issuances in 2019, accounting for about 44% of the total. While green bonds from financial institutions saw moderate growth, nonfinancial corporate issuances more than doubled in 2019 over the prior year to $59 billion.

"We expect continued gradual growth in this market segment as high-profile transactions ... will encourage other corporate issuers to consider entering the market," Moody's said. One such high-profile transaction was the **$1 billion green bond** that **Verizon Communications** Inc. **issued** in **February 2019**. Verizon said the proceeds would go toward such things as renewable energy, energy efficiency, green buildings, sustainable water management, and biodiversity and conservation.

Beyond corporations and financial institutions, government-backed entities issued $35 billion in bonds, followed by asset-backed securities with $32 billion, development banks with $29 billion and sovereigns with $26 billion, Moody's said.

Regionally, **European issuers accounted** for **nearly half of all green bonds** in **2019**. The analysts noted that governments and regulators, particularly in Europe, are increasingly focused on providing structure and clarity to the sustainable finance market. In December 2019, the European Parliament, Council and Commission reached an agreement on a classification system for green financing, which excluded coal and nuclear projects.

Energy and buildings dominated green bonds use of proceeds in 2019



Data effective Feb. 3, 2020.
Sources: Moody's Investors Service, Climate Bonds Initiative

As for social and sustainability bonds, financial institutions led the charge, comprising about 64% of global issuances in 2019, while European issuers accounted for 57% of social bonds. Japanese issuers accounted for about 25% of the social bond issuance by country.

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MUFG Securities Jumps Wells Fargo as 2019 Top Debt Underwriter for Utilities

by Darren Sweeney and Ashleigh Cotting
S&P Global Market Intelligence – Jan. 13, 2020

MUFG Securities Americas Inc. **overtook Wells Fargo** Securities LLC as **2019's lead debt underwriter** for the **North American utilities sector** in an S&P Global Market Intelligence ranking by deal credit.

MUFG Securities Americas served as a **book manager** for **61 debt offerings** with a **total** deal credit of about **$5.33 billion through** the **fourth quarter** of **2019**.

MUFG was among several underwriters for Southern Co. subsidiary Georgia Power Co.'s September 2019 offering of senior debt.

Wells Fargo, the lead underwriter **through** the **third quarter** of **2019**, **dropped** to the **second spot**, serving as a **book manager** for **48 offerings** with a **total** deal credit of about **$5.08 billion**.

J.P. Morgan Securities LLC followed in **third**, **underwriting 55 debt offerings** at a **total** deal credit of about **$4.89 billion**.

Citigroup Global Markets Inc. **edged out Wells Fargo** to **lead common equity offerings** through the final quarter of 2019, underwriting **six offerings** at a **total** deal credit of about **$2.10 billion**. **Wells Fargo** served as book manager for **nine common equity offerings** at a **total** deal credit of just under **$2.10 billion**.

Barclays Capital Inc. claimed the **third spot** with **six common equity offerings** at a **total** deal credit of about **$1.55 billion**.

Citigroup, Barclays and Wells Fargo were among the crop of book managers for DTE Energy Co.'s fourth-quarter 2019 issuance of equity units and common shares, with net proceeds to fund its acquisition of a gathering system and gathering pipeline in the Haynesville Shale of Louisiana.

Morgan Stanley held onto its spot as the **lead underwriter** in **2019 for preferred equity offerings**, with five offerings at a total deal credit of $729.6 million. **Behind** Morgan Stanley, **Wells Fargo** was an underwriter for three preferred equity offerings at a total deal credit of $534.6 million.

Morgan Stanley unit Morgan Stanley & Co. LLC and Wells Fargo served as two of several book runners on Dominion Energy Inc.'s June 2019 upsized offering of 14 million 2019 series A equity units. The company increased the offering from 12.5 million corporate units.

Bank of America Securities underwrote three preferred equity offerings at a total deal credit of $493.3 million through the fourth quarter.

Utilities

2019 rank	2018 rank	Company	Number of offerings	Deal credit ($M)
Common equity offerings *(Ranked by deal credit)*				
1	3	Citigroup Global Markets Inc.	6	2,101.6
2	5	Wells Fargo Securities LLC	9	2,099.3
3	1	Barclays Capital Inc.	6	1,547.3
4	2	J.P. Morgan Securities LLC	7	1,282.2
5	6	Goldman Sachs & Co. LLC	3	1,196.8
6	4	Morgan Stanley	3	840.4
7	7	Bank of America Securities	4	673.9
8	NR	Scotia Capital Inc.	3	447.7
9	9	Credit Suisse (USA) Inc.	1	310.7
10	8	RBC Capital Markets LLC	2	205.1
11	NR	CIBC World Markets Corp.	1	173.0
Preferred equity offerings *(Ranked by deal credit)*				
1	1	Morgan Stanley	5	729.6
2	4	Wells Fargo Securities LLC	3	534.6
3	9	Bank of America Securities	3	493.3
4	1	Barclays Capital Inc.	2	451.3
4	5	Goldman Sachs & Co. LLC	2	451.3
6	6	Credit Suisse (USA) Inc.	2	410.0
6	6	J.P. Morgan Securities LLC	2	410.0
8	17	BB&T Capital Markets	2	361.3
9	3	RBC Capital Markets LLC	1	250.0
10	NR	BNP Paribas Securities Corp.	1	201.3
10	10	Citigroup Global Markets Inc.	1	201.3
10	13	Mizuho Securities USA LLC	1	201.3

Debt offerings *(Ranked by deal credit)*				
1	3	MUFG Securities Americas Inc.	61	5,328.7
2	2	Wells Fargo Securities LLC	48	5,083.7
3	1	J.P. Morgan Securities LLC	55	4,894.6
4	5	Barclays Capital Inc.	43	4,501.7
5	6	Mizuho Securities USA LLC	49	4,329.8
6	11	Bank of America Securities	39	3,822.6
7	10	Citigroup Global Markets Inc.	42	3,818.0
8	13	TD Securities (USA) LLC	31	3,398.8
9	12	BNP Paribas Securities Corp.	37	3,197.1
10	9	Scotia Capital Inc.	32	3,036.8
11	8	U.S. Bancorp Investments Inc.	31	2,980.5
12	7	Morgan Stanley	28	2,512.4
13	4	RBC Capital Markets LLC	30	2,332.4
14	15	PNC Capital Markets LLC	26	2,328.4
15	16	Credit Suisse (USA) Inc.	23	2,295.5
16	14	Goldman Sachs & Co. LLC	22	2,082.8
17	17	SMBC Nikko Securities America Inc.	21	2,016.6
18	18	BB&T Capital Markets	21	1,739.3
19	19	Bank of New York Mellon Corp.	15	1,461.5
20	22	Crédit Agricole Securities (USA) Inc.	16	1,202.3
21	29	BMO Capital Markets Corp.	13	1,123.8
22	21	CIBC World Markets Corp.	12	1,116.0
23	23	Deutsche Bank Securities Inc.	15	1,081.6
24	20	KeyBanc Capital Markets Inc.	8	561.2
25	34	Natixis Securities Americas LLC	6	393.3
26	25	Regions Securities LLC	3	342.9
27	NR	Fifth Third Securities Inc.	3	277.9
28	36	National Bank of Canada Financial Inc.	2	176.4
29	30	Banco Santander SA	2	145.0
30	27	BBVA Securities Inc.	2	143.8
31	NR	CastleOak Securities LP	2	113.3
32	NR	Great Pacific Securities	2	103.3
33	NR	NatWest Markets Securities Inc.	1	93.8
34	35	Stephens Inc.	1	87.5
35	26	HSBC Securities (USA) Inc.	1	75.0
36	NR	C. L. King & Associates Inc.	1	33.3
36	NR	Drexel Hamilton LLC	1	33.3
36	32	Samuel A. Ramirez & Co. Inc.	1	33.3
39	24	UBS Investment Bank	2	17.9

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NextEra Energy Completes Sale of Equity Units

by Adrian Munawar – S&P Global Market Intelligence – Feb. 21, 2020

NextEra Energy Inc. on Feb. 21 completed the **sale** of **$2.5 billion** of **equity units at $50 each** to **J.P. Morgan Securities** LLC, **Wells Fargo** Securities LLC and **BofA** Securities Inc.

Each equity unit consists of a **contract** to **purchase** the company's **common stock** at a **price** of **between $282.04 per share and** $**352.55 per share and**, **initially**, a **5% undivided beneficial ownership interest** in **NextEra** Energy Capital Holdings Inc.'s **series K debenture due March 1, 2025**.

The company will pay **total annual distributions** on the **equity units** at the **rate of 5.279%**, consisting of **interest on** the **debentures and payments under** the **stock purchase contracts**, according to a Form 8-K filing.

Net proceeds of about **$2.42 billion** will be added to NextEra Energy Capital's general funds, which will be used to fund investments in energy and power projects and for other general corporate purposes, such as repaying all or a portion of its outstanding commercial paper obligations.

Completion of the stock purchase is due by March 1, 2023. The company intends to satisfy those purchase obligations with proceeds raised from a remarketing of the debentures that are a component of the equity units.

The **debentures** will be **issued** in the **principal amount of $1,000** and will be **guaranteed by NextEra** Energy.

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NiSource Stresses Safety Efforts Ahead of Forced Mass. Asset Sale to Eversource

by Tom DiChristopher – S&P Global Market Intelligence – Feb 27, 2020

NiSource Inc. executives highlighted their commitment to improving pipeline safety one day after the company agreed **to plead guilty** to **criminal charges over** the **2018 Merrimack Valley disaster** and **submitted to** a **forced sale of** its **Massachusetts business to Eversource** Energy.

The utility holding company's CEO, Joseph Hamrock, enumerated the safety initiatives the company has pursued since the September 2018 catastrophe, offering a view into the portfolio Eversource is inheriting. He also highlighted the ongoing implementation of safety programs across the six states where NiSource will continue operating gas utilities.

"We are resolved to lead in safety and exceed industry standards, anchored by three pillars: a culture where everyone is empowered to identify and report risk, process safety that adds layers of protection, and enhanced asset risk and analytics," Hamrock said on the company's quarterly earnings conference call on Feb. 27.

The **U.S. Department of Justice** on Feb. 26 **announced** the **settlement** with **NiSource and its Bay State subsidiary**, **Columbia Gas of Massachusetts**, over the 2018 series of fires and explosions that rocked three communities in the commonwealth. Federal investigators and prosecutors attributed the deadly event to "**flagrant organizational indifference**" and "**complete organizational failure**" at Columbia Gas, officially known as Bay State Gas Co.

Eversource stands **to more than double** its **current base of 300,000 Massachusetts customers after** the **deal closes**, but the acquisition also presents challenges. The disaster has left the Merrimack Valley wary of the industry, and Columbia Gas has identified **issues with** its **distribution system** since the initial event.

Hamrock said the company has "substantially completed" both post-event restoration and **service line verifications ordered by** the **Massachusetts Department** of **Public Utilities after Columbia Gas discovered noncompliant recovery work**. **Columbia Gas** is **responsible for all liabilities** related to the accident under its deal with Eversource.

Two Department of Public Utilities investigations into Columbia Gas's responsibility for the event and its emergency response also continue. Hamrock said his "hope and goal" is to wrap up those investigations by the deal's anticipated closed in the third quarter.

NiSource CFO Donald Brown said the **$1.1 billion cash deal** "**represents** a **loss** compared to the book value of Columbia Gas of Massachusetts." The **company** has **agreed** to **turn over any profits from** the **sale** to the U**.S. government**. The U**.S. attorney has the right** under the settlement **to verify and challenge NiSource's calculation of profit, gain or loss.**

The settlement also **requires NiSource** to **implement National Transportation Board recommendations** issued to Columbia Gas across the utility's operations **in six other states**. NiSource recently fulfilled the NTSB's urgent safety recommendations.

NiSource's "top priority" remains implementing a safety management system – a comprehensive approach to "proactively identifying and mitigating potential risks," Hamrock said. The company trained 90% of its gas employees on that system in 2019 and will complete the training this year, he added.

NiSource has trained nearly all employees on its recently implemented incident command structure, which brings its emergency management into alignment with federal standards, according to Hamrock.

The company also set up an **independent quality review board**, hired a chief safety officer, **installed more than 1,000 automatic shut-off devices on low-pressure gas systems**, and implemented a corrective action program to help employees and contractors report concerns, he added.

NiSource on Feb. 27 reported fourth-quarter net **operating earnings jumped nearly 20% from** a **year ago** to $169.6 million. The **company suspended** its **2020 earnings guidance in light** of the **Columbia Gas** of Massachusetts **sale**.

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Northwest Natural Gas Files Ore. Rate Case, Seeking $71.4M Hike

by Charlotte Cox – S&P Global Market Intelligence – Jan. 6, 2019

Northwest Natural Gas Co., a subsidiary of Northwest Natural Holding Co., filed a request with the Oregon Public Utility Commission on Dec. 30, 2019, for a **$71.4 million**, or **11.5%, base rate increase**. The company cited **safety** and **reliability investments** in the gas distribution system, as well as the **replacement** of the **dehydration system** at the **Mist underground storage facility**, as the **main drivers** for the rate increase request.

Northwest Natural Gas Co.
Gas base rate case
Docket No. UG-388

Current case	Rate change ($M)	ROE (%)	ROR (%)	Rate base value ($M)
Requested by company	71.4	10.00	7.30	1,471.7
Previous case				
Company revised request	37.8	10.00	7.62	1,214.9
PUC order	23.4	9.40	7.32	1,186.4

Compiled Jan. 4, 2020.
ROE = return on equity; ROR = rate of return
Source: Regulatory Research Associates, a group within S&P Global Market Intelligence

The rate increase is premised upon a **10.0% return** on **equity** (**50%** of a regulatory **capital structure**) and a **7.3% return** on an **average rate base** valued at **$1.47 billion** for a **test year ending Oct. 31, 2021** (**Docket No. UG-388**).

The **10.0% ROE Northwest Natural is seeking** is **higher than** the **9.68% average equity return accorded gas utilities nationwide** in cases decided during the **first nine months of 2019** and the **9.59% average ROE observed** in **gas cases decided during 2018**, according to **R**egulatory **R**esearch **A**ssociates, a group within S&P Global Market Intelligence. For a discussion of trends in ROE authorizations and other rate case parameters, refer to RRA's Major Rate Case Decisions Quarterly Update.

In the rate case filing, Northwest Natural indicated that by November 2020, the company is slated to complete several **system reinforcement projects**, including work **in Sandy, Salem, Hood River, Oregon City** and **Happy Valley**. In addition, Northwest Natural plans to **replace** the **large dehydration system** at the **Mist underground gas storage facility in 2020**, because the **current** dehydration **system** – **installed** in **1998** — is **reaching** the **end** of its **life**. The company pointed out that there is only one major interstate pipeline that delivers natural gas into its service territory, so the Mist storage facility is important to ensure sustained service. Lastly, Northwest Natural is **moving into** a **new operations center** in **early 2020.**

Previous rate case

Northwest Natural's last rate proceeding was **decided** in **October 2018**, when the **commission authorized** a **rate increase of $23.4 million**, largely following the adoption of settlements. The rate change was based on a **9.4% return on equity** (**50%** of a **regulatory capital structure**) and a **7.32% return on average rate base valued** at **$1.19 billion** for a **test year ended Oct. 31, 2019**.

The commission ordered the parties to engage in discussions to **resolve tax related issues** including the flow back of over-collections from Jan. 1, 2018, when the **21% tax rate** became effective, through **Nov. 1, 2018**, when new rates became effective.

In February 2019, Northwest Natural, staff, and other parties filed a third partial settlement, which was adopted by the PUC in March 2019. Therefore, as revised, **Northwest Natural** was **authorized** a **$24.9 million rate increase premised** upon a **rate base** of **$1.20 billion**.

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Overvalued Equities Increase Corporate Credit's Downside Risk

by John Lonsky – Chief Economist – Moody's Capital Markets Research, Inc.

An **overvalued equity market increases** the **risk** of a **deep sell-off of equities** that will **damage corporate credit**. Ironically, corporate credit may eventually **suffer to** the **degree** that **debt-funded equity buybacks and dividends lifted equity values up to unsustainable heights**.

A **sinking equity market** also increases the cost of corporate debt by making it much **costlier**, if not impossible, **to replace debt capital with equity capital**. Moreover, equity weakness reduces the amount of cash that can be raised via the sale of business assets.

All else the same, a **broadly distributed equity price plunge lowers** the **market value** of the **business assets that collateralize outstanding corporate debt**. the **consequent drop** in the **market value** of the **net worth of businesses** and a **likely increase** in the **volatility** in the **market value of business assets will increase** the **likelihood** of **default**.

For example, in terms of month-long averages, when the market value of U.S. common equity sank by 12.9% from May 2015's then record high to a February 2016 bottom, the Moody's Analytics long-term Baa industrial company bond yield spread widened from 190 basis points to 277 bp, a composite high yield bond spread ballooned from 451 bp to 839 bp, and MA's average high-yield expected default frequency metric jumped from 3.43% to 7.79%, where the latter was slightly under January 2-16's now 10.5-year high of 7.99%. Meanwhile, the moving yearlong average of the ratio of downgrades per upgrade for U.S. high-yield credit rating revisions soared from June 2015's 1.01:1 to June 2016's 2.43:1.

For the sample that begins in 1985, the **inverse correlation** between the **U.S. equity market's yearly percent change and** the **broad averages** of **corporate bond yield spreads strengthens as bond credit ratings decline. According to a sample** that **begins with July 1985** and **ends** in December 2019, the U.S. equity market's yearly percent change supplies **correlations** of -0.46 with the long-term single-A industrial company bond yield spread, -0.55 with long-term Baa industrial bond yield spread, and -0.68with the high-yield bond spread.

VIX Estimate Equity Risk Shows High Correlations with Corporate Bond Yield Spreads

The **VIX serves as an estimate of the perceived risks surrounding equity market performanc**e. The **VIX moves higher when market players assign** an **increased likelihood** to a **deep drop by** the **equity market**.

For a **sample** that **begins** with **October 2003** and **ends with December 2019**, the **VIX** exhibits a **somewhat stronger correlation** with the **broad corporate bond yield spread averages than does** the **market value** of **common stock's annual percent change**. The starting date moves up to October 2003 because of a **<u>change</u>** **<u>in</u>** the **<u>VIX's estimation methodology</u>** that **<u>began</u>** in **<u>September 2003</u>**.

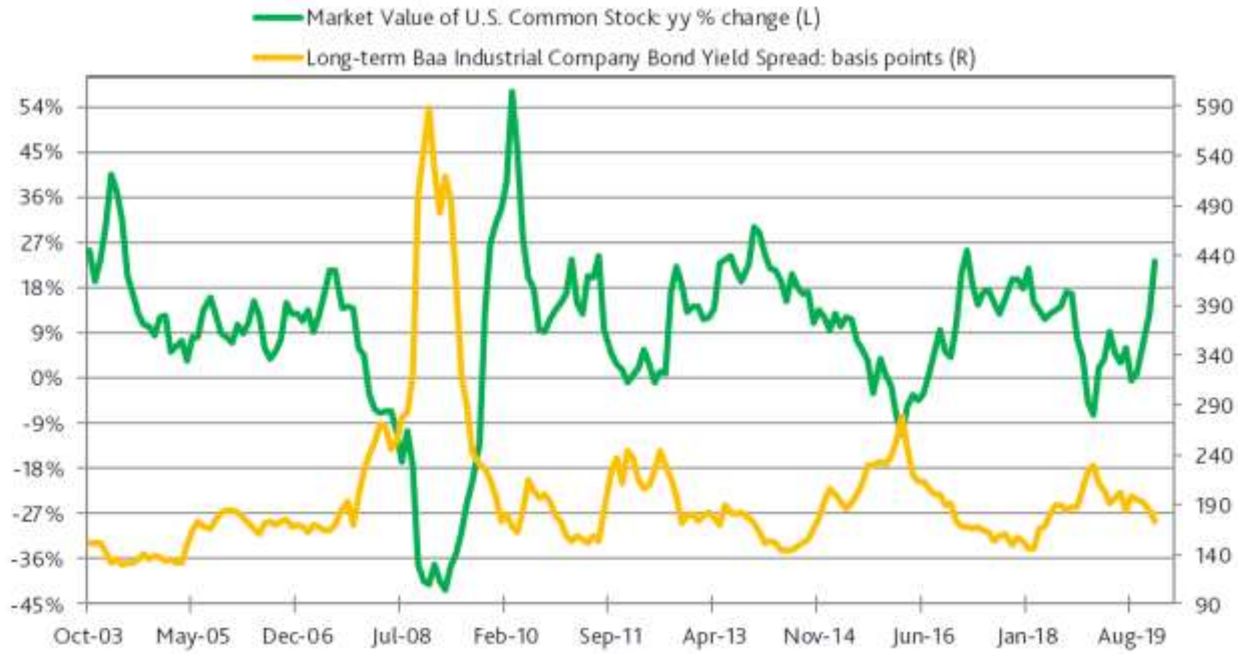
Figure 1: VIX Now Favors a Thinner Long-Term Baa Industrial Company Bond Yield Spread

month-long averages

sources: CBOE, Moody's Analytics

In terms of month-long averages, the VIX generates very high correlations of 0.84 with both the single-A and Baa long-term industrial-company bond yield spreads and 0.89 with a composite high-yield bond spread. By comparison, for the more recent sample that starts with October 2003, the market value of U.S. common stock's annual percent change generates inverse correlations of -0.81 with the single-A industrial spread, -0.83 with the Baa industrial spread, and -0.75 with high-yield spread. Thus, the **correlation between** the **annual percent change** of the **U.S. equity market** and **corporate bond yield spreads may have strengthened during** the **past 15 years**.

Figure 2: Equity Rally Helps to Narrow Long-Term Baa Industrial Company Bond Yield Spread
month-long averages
sources: Dow Jones, Moody's Analytics



Neither VIX nor Spreads Has Reacted Materially to Jump in Geopolitical Risk

Thus far, **not one major indicator** of **market risk for earnings-sensitive securities** has **soared higher** in **anticipation** of a **disruptive** and **protracted military conflict**.

Ordinarily, episodes of high market anxiety are accompanied by a VIX that is well above its post-2003 median of 15.6-points. Instead, the VIX closed no higher than January 3's 14.0 points, which barely topped the 13.8 points of year-end 2019. For all of 2019, the VIX averaged 15.4 points.

A composite high-yield bond spread finished no higher than January 3's relatively lean 376 bp that hardly differed from the 375 bp of year-end 2019. January 3's high-yield bond spread is considerably narrower than its post-2003 median of 468 bp and its 433 bp average of calendar-year 2019.

The spread over Treasuries of Moody's long-term Baa industrial company bond yield has barely widened from December 31, 2019's 22-month low of 164 bp to January 8's 170 bp. Though the latter was inflated by early 2020's surge in investment-grade corporate bond issuance, it was still well under the 197 bp average of calendar-year 2019.

Thus far, Moody's Analytics' average high-yield EDF metric has been indifferent to the latest rise in geopolitical risk. The high-yield EDF metric, which is a market and balance-sheet driven estimate of default risk, has eased from year-end 2019's 4.18% to a recent 4.27%, where the latter nearly matched the metric's 4.28% average of 2019's second half.

Overvalued Equity Market Has Yet to Reach Extremes of 2000

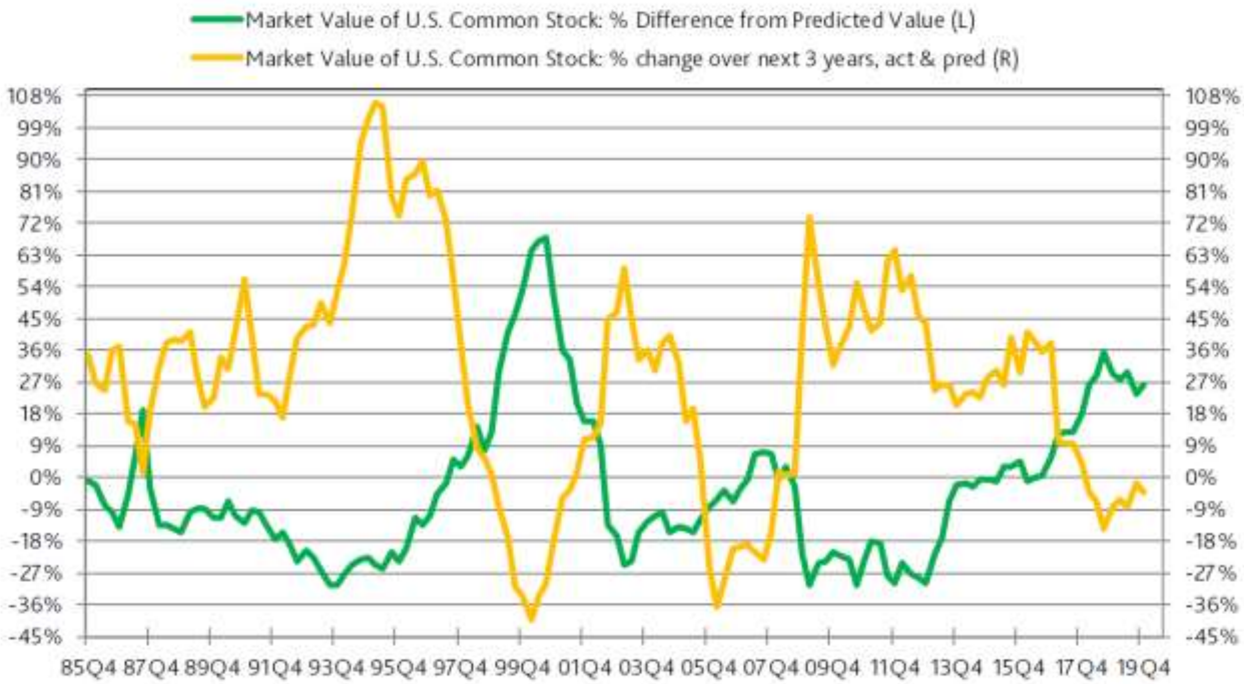
Because of overvaluation, the U**.S. equity market will** necessarily **be more sensitive** than otherwise **to increases** in **perceived risk**. To ascertain whether the market value of U.S. common stock is under- or overvalued, the **overall valuation of U.S. equities can be explained** in **terms** of the **moving yearlong average** of **core after-tax profits and Moody's** long-term **Baa industrial company bond yield**. This **methodology suggests** that the **recent valuation of U.S. equities exceeds** its **predicted value by 26%.** Though the latter is much greater than the equity market's 7% overvaluation of late 2007, it **falls considerably short** of the **market's average 58% overvaluation** of **July 1999 through December 2000**.

For a sample that starts and ends with the final quarters of 1986 and 2019. the percent difference between the actual and predicted market value of U.S. common equity exhibits increasingly meaningful inverse correlations with the cumulative percent change by the future market value of equity of -0.48 for one year later, -0.65 for two years later, and -0.70 for three years later. Thus, **while** the latest 26% estimated **overvaluation** of the **U.S. equity market** is **equivocal** about **where** U**.S. equities will be** a **year from now**, the market's current overvaluation **favors** a **lower equity market three years hence**.

The equity market's record high overvaluation was the 68% of 2000's third quarter. Thereafter, the market value of U.S. common stock was lower by 23.6% as of 2001's third quarter, 38.8% as of 2002's third quarter, and 30.2% as of 2003's third quarter.

At the other extreme, the U.S. equity market's record low undervaluation was the -31% of 2010's third quarter. Thereafter, the equity market was higher by 12.8% as of 2011's third quarter, 27.3% as of 2012's third quarter, and 54.8% as of 2013's third quarter.

Figure 3: Equity Market's Current Overvaluation Warns of Lower Equity Market Three Years Hence
sources: Moody's Analytics, Dow Jones



Year 2000's Overvaluation Was Made Worse by Higher Rates and Rising Defaults

During January-September 2000, the **market value** of **U.S. common stock surpassed** its **predicted value** by a patently **unsustainable 66%, on average**. **Over** the **next three years**, the **U.S. equity market incurred** a **deep setback** of **-34.7%, on average**.

In 1999-2000, the market failed to heed the warnings of significantly higher interest rates. From March 1999 to March 2000, the market value of U.S. common stock soared higher by 22.1% despite increases from March 1999 to March 2000 of 4.75% to 6.00% by the federal funds rate, of 5.57% to 6.24% by the 10-year Treasury yield, of 7.51% to 8.34% by Moody's long-term Baa industrial company bond yield, and of 9.92% to 11.83% by a composite speculative-grade bond yield.

Finally, the equity market's super surge of 1999-2000 mistakenly ignored a pronounced deterioration of corporate credit quality. For example, the averages of the 12 months leading up to the equity market's peak of March 2000 showed relatively wide spreads of 193 bp for the long-term Baa industrial company bond yield and 520 bp for high-yield bonds. Moreover, the high-yield EDF metric averaged a menacing 7.60%. These measures of credit risk correctly captured a climb by the U.S. high-yield default rate from March 1999's benign 3.6% to March 2000's disruptive 6.3%.

For now, the **good news** is that the **market-derived estimates of corporate credit risk** are **well under** their **readings** of **1999-2000's gross overvaluation** of **U.S. equities**. Few, if any, expect the high-yield default rate to approach March 2000's 6.3% by the end of 2020.

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Utilities' High Valuations Crawling Toward End in 2020: Guggenheim

by Ellen Meyers – S&P Global Market Intelligence – Jan. 10, 2020

The **U.S.** utility sector will remain a **stock** buyers' market in 2020, but it may be **approaching** the **end** of **high valuations among electric and gas utilities, according to** a sector outlook from **Guggenheim Securities LLC.**

Utility stocks made a **23% gain in value** in **2019**, and those companies are continuing to trade above expectations in 2020, Guggenheim analyst Shahriar Pourreza said in a Jan. 7 note. **However**, "valuation can only stretch so far for so long … and we believe we are **likely** going into a **reversal** for the regulated utility rally now."

Global macro and policy concerns, mixed economic data and central bank policy uncertainty propelled investors to go after utility stocks in 2019, but Pourreza said there will likely be more clarity in 2020 on those issues. That is pushing Guggenheim to be more bearish on **traditional regulated utilities** that have been **viewed as** "**bond proxies**," **such as A**merican **E**lectric **P**ower Co. Inc., **Portland General Electric** Co. and **Southern** Co.

"Regulated utilities have had a solid multi-year run, but as we continue in a period of low interest rates with an end in sight … we believe **investors** will now likely tend to **discount utilities** that represent **bond surrogates**, turning their **focus** to **utilities** with **strong**, **visible growth** to overcome expectations for higher yield elsewhere," the analyst wrote in the note.

Moreover, regulated electric and gas utilities may become less desirable in the market unless these companies highlight potential opportunities to improve their finances or trade at "unjustified" premium valuation levels.

Instead, investors will **likely move capital toward utilities** and merchant power providers **with more cyclical characteristics** within the energy value chain, such as DTE Energy Co., Public Service Enterprise Group Inc. and NRG Energy Inc., Pourreza said. Wall Street is also moving toward not viewing price-to-earnings ratios in isolation with more "bellwether" utilities such as NextEra Energy Inc. and Sempra Energy because cash flows are becoming more relevant factors in evaluating companies in the sector.

Beyond stock valuations, utilities will likely continue to see a sl**ower M&A market through 2020** before it becomes more active. Santee Cooper's potential sale remains one of the most visible large-scale utility deals. While PPL Corp. Chairman and CEO William Spence has said the company does not need M&A to execute its business strategies amid reports of a potential $67 billion merger with Avangrid Inc., Guggenheim still views a deal with another large international company as a possibility.

"We believe investors will increasingly be on the hunt for ideas within the sector — stock picking will continue to matter in 2020, as was the case in 2019," Pourreza wrote.

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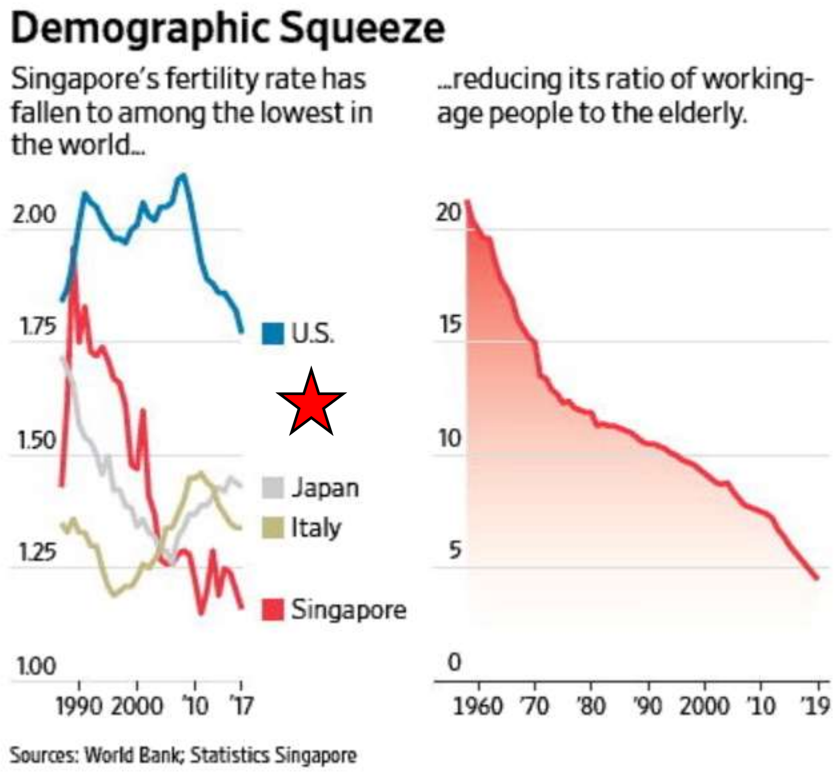
Singapore Struggles to Boost Births

by Jon Emont – WSJ – Feb. 24, 2020



For years, this prosperous city-state has encouraged its citizens to have more children, offering cash grants for new parents, providing public housing for young couples and even passing along relationship advice.

In its latest push, the government in January expanded preschool subsidies and enhanced government support for assisted reproduction and fertility treatments.

But fertility in Singapore remains in a slump – 1.14 children per woman in 2018, down from about three in 1970, making it among the world's lowest rates. Demographers say the city-state's difficulties reflect how government policies tend to have a low impact on raising fertility rates.

"Policies in general have a very disappointing effect from the policy makers' perspective," said Mikko Myrskyla, executive director of the Max Planck Institute for Demographic Research in Germany. Once small families and childlessness become commonplace, he said, cash handouts and subsidized kindergarten tend not to change people's minds, in part because they make only a small dent in the lifetime costs of raising a child.

"We can see many youth not getting married and they think twice before having kids," said Bhavani Perina, a 41-year-old Singaporean with three children who is taking a break from her career to focus on them.

Ms. Perina said workplace hours should be more flexible to support working parents, and that child-care-leave policies should be extended to those with older children

Falling birthrates pose a challenge in countries around the world. They face a future with shrunken workforces and insufficient tax revenue to support expanding ranks of the elderly. Even the U.S., once considered less vulnerable because of high immigration and high birthrates among some groups, saw births in 2018 fall to their lowest levels since the 1980s.

The question of how to boost birthrates is taking on new urgency amid a global backlash against immigration. Some economists have argued in favor of expanding immigration as a quick way to boost the workforce in low-fertility societies. Instead, many such countries have grown resistant, partly because of worries that migrants will replace declining native populations.

Left: Children run through a waterside park in Singapore. Fertility remains in a slump in the city-state.

Even Singapore's government is concerned about what it calls nativist tendencies. An opposition party's manifesto recently alleged immigration policies were "precipitating a crisis of national identity." A government spokesperson said its policy has been to take in a stable number of new citizens and permanent residents committed to making Singapore their home.

Singapore publicizes its policies to support parenthood on www.heybaby.sg. Benefits include higher tax rebates for more children, paid leave for parents with young children and tax benefits for working mothers whose parents look after the grandchildren. The government offers grants to companies that provide flexible work arrangements.

"We must actively lean against the wind to make marriage and parenthood achievable, enjoyable and celebrated," Minister for Manpower Josephine Teo said in a speech last year.

Singapore's National Population and Talent Division, a government unit, says that while most young Singaporeans want to get married and have children, "they are increasingly prioritizing other goals such as furthering their education, building their careers and travel." The government said there were hopeful signs, including that "the average number of citizen births and marriages over the last five years is higher than that in the preceding five-year period."

Singapore is finding new ways to bring couples together. Deon Chan, the founder of dating agency Love Express, recently received a government grant to build an app that, she said, will use artificial intelligence to suggest romantic partners for singles who attend her events. She points to statistics that show Singaporeans staying single until later in life.

At one of Love Express's recent speed-dating events, held in a luxury hotel and advertised on a government website, a dozen men rotated between tables of women sipping mocktails, discussing careers, hobbies and whether love at first sight exists.

Jessie, a 40-year-old office administrator, said that although she would like to get married and have children, there was no forcing it. "It takes two hands to clap," she said.

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Treasury Yields Fall After Fed Decision

by Sam Goldfarb – WSJ – Jan. 30, 2020

The **yield** on the **10-year U.S. Treasury note dropped** to its **lowest closing level** in **over three months** on **Wednesday** after the spreading **coronavirus** caused airlines to cancel flights to China and the Federal Reserve did little to change investors' expectations that it could cut interest rates later in the year.

The **10-year yield** settled at **1.593%**, its lowest since Oct. 9, compared with 1.642% Tuesday.

Yields, which **fall when bond prices rise**, declined early in the session after **British Airways** said it would **halt flights** to **mainland China**, citing a drop in demand for travel as the number of people infected by the coronavirus climbed.

Bonds rallied further after **other airlines said** they were **canceling flights** to the country, reinforcing concerns that the virus will drag on global economic activity.

They got another boost after **Fed officials left interest rates unchanged** at the conclusion of their two-day policy meeting and made few changes to their previous post-meeting statement from December.

Federal-funds futures – which traders use to bet on the path of central-bank policy – showed after the meeting that investors thought there was a 69% chance that the Fed will cut rates by the end of its September meeting, according to CME Group data. That was up from 58% Tuesday.

Expectations that the Fed will cut rates tend to increase demand for shorter-term Treasurys by making their yields look more attractive by comparison

Growth fears also boost longer-term Treasurys by **increasing** the **appeal** of **safer assets** and **reducing expectations** for **inflation**.

The yield on the two-year Treasury note settled at 1.419%, down from 1.457% Tuesday and 1.569% on Jan. 17, the last trading session before a Chinese health official said the coronavirus was spreading between humans. The Fed cut rates three times last year, lowering its benchmark federal- funds rate to a range between 1.5% and 1.75%.

At a post-meeting press conference, Fed Chairman Jerome Powell acknowledged risks to the global economy, like the coronavirus, and causes for optimism, such as the recent U.S.-China trade agreement.

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Fed Holds Benchmark Rate Steady, Reaffirms Its Stance

by Nick Timiraos – WSJ – Jan. 30, 2020

Fed Chairman Jerome Powell said the central bank was monitoring the impact of the **coronavirus** on **China**. '**When China's economy slows** down, **we** do **feel that**,' he said.

The **Federal Reserve left** its **benchmark interest rate unchanged** and **reaffirmed** its make-**no-moves posture** while it gauges how rate cuts last year cushioned the U.S. economy against a spell of weaker global growth.

"We're **comfortable** with our **current policy stance** and we think it's appropriate," Fed Chairman Jerome Powell said Wednesday at a news conference after the central bank announced its decision.

But his comments suggested that **lingering risks** to the **global economy** and difficulty sustaining inflation at the Fed's 2% target **meant** that if **Fed** officials were to change rates, they would be **more likely** to **cut** them **than** to **raise** them.

Inflation has **held below** the **target** since the central bank formally adopted it in 2012, except for 2018, when Fed officials most recently raised interest rates. They reversed course last year and cut rates three times as the global economy slowed and inflation ran below **2%.**

"We're not satisfied with inflation running below 2%, particularly at a time such as now where we're a long way into an expansion and a long way into a period of very low unemployment, when in theory where inflation should be moving up," Mr. Powell said.

Mr. Powell and his colleagues have been considering changes to their inflation-targeting framework that would seek to stem falling consumer expectations of future inflation. The officials are concerned that low inflation and low nominal interest rates could hinder the Fed's ability to reduce rates to counteract a future recession.

"We have seen this dynamic play out in other economies around the world and we're determined to avoid it here in the United States," he said. Mr. Powell later said the review was designed to address how "ongoing powerful, global dis-inflationary trends" have hampered central banks around the world.

Mr. Powell's comments on inflation provided "a strong message that they're going to err on the side of providing more accommodation," said Kathy Bostjancic of Oxford Economics. "It's unclear at this point if that means they actually cut interest rates this year, but at a minimum, they're far, far away from considering interest-rate hikes."

The Fed's post-meeting statement Wednesday offered a mixed assessment of the economic outlook. It described consumer spending growth as moderate, a downgrade from "strong" in December, and said **business investment** had **remained weak**. All 10 members of the central bank's rate-setting committee voted to hold the Fed's benchmark federal-funds rate in a range of 1.5% to 1.75%.

To keep the rate trading near the midpoint of that range, they **also decided** to slightly **increase** a **separate** rate, the **interest rate paid on bank deposits**, **or reserves**, **held at** the **Fed**, **to 1.6%** from 1.55%.

The technical adjustment amounts to a housekeeping move after the **Fed flooded markets with cash** in **September** to **prevent money-market volatility from pushing** the **fed-funds rate out of** its **range**. The Fed had lowered the interest rate on reserves closer to the bottom of the fed-funds range in September as part of those efforts.

Since Fed officials' December meeting, financial markets had been ebullient due to a cease fire in trade hostilities between the U.S. and China, and the resolution of how the U.K. would leave the European Union. Reduced geopolitical uncertainty has been joined by glimmers of firmer global manufacturing activity.

But markets have turned jittery in recent days because of worries that the outbreak of the coronavirus in China could further slow the Chinese economy, with repercussions for global demand.

"There are grounds for what I would call cautious optimism for the global economy," Mr. Powell said. "We are **not** at all **assured of a global rebound** but there are signs and reasons to expect it – and then comes the coronavirus."

The Fed became especially sensitive to global developments last year, shelving in January 2019 plans to continue lifting rates before turning toward cutting them in July amid declines in market-based rates and unexpectedly soft inflation readings.

Mr. Powell said it was too soon to say how the virus would affect Chinese, global and U.S. growth. "There will clearly be implications of course in the near term for Chinese output, and I would guess for their close neighbors," he said. "We'll just have to see what the effect is globally."

Speaking more broadly, he said the Chinese economy – the world's second-largest – was very important for the global economy. "When China's economy slows down, we do feel that," he said.

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Utility Shares Jump on Shift to Safety

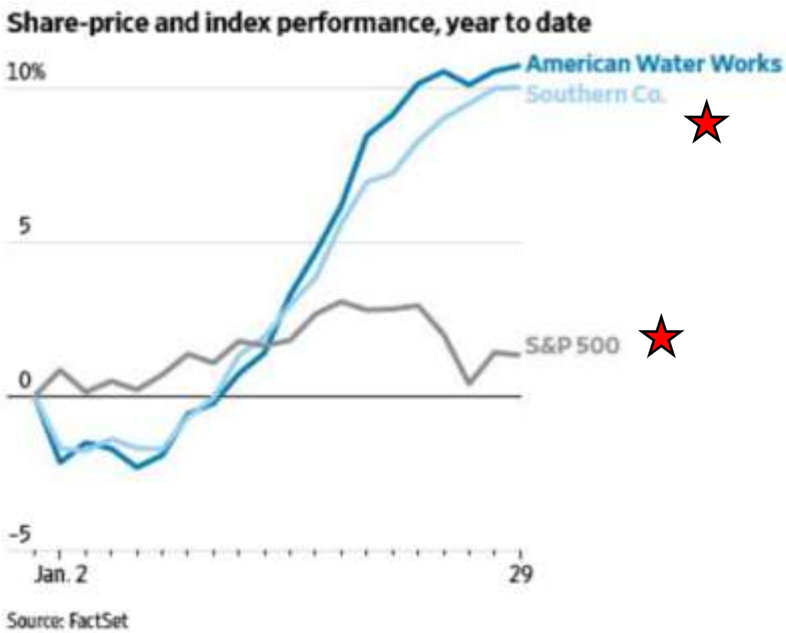
by Alexander Osipovich – WSJ – Jan. 30, 2020

Utilities stocks have been among this **month's winning bets** as the widening **corona-virus outbreak** has **sent investors scurrying for safety**.

The **sector** has **risen 6.1%** in the **S&P 500 so far in January**, on pace for its best month since June 2016, when the U.K.'s Brexit referendum sparked a broad market panic. The **S& P 500** itself is **up 1.3% for** the **month**.

Utilities are **outperforming every other sector in** the **index**, even inching ahead of the technology sector, which has been an investor darling in the long-running bull market. Tech stocks in the S& P 500 have climbed 5.9% to start 2020.

The **S&P 500's worst-performing sector**, **energy**, has **fallen 9.1%** as the outbreak that began in the central Chinese city of Wuhan has led to growing travel disruptions and sparked concerns that it could weigh on global economic growth. **Utilities are generally seen as** a **defensive play**, rising on fears of a market downturn, because **people still need to pay** their **gas and electric bills each month**, **even when** they **cut spending elsewhere**.



Many **utilities also pay dividends**, **allowing** their **investors** to **earn** a **bondlike income even if** the **companies' share prices don't appreciate much**.

With **low interest rates making bonds** themselves **less attractive** – the **yield** on the **10-year U.S. Treasury note** was **1.593% on Wednesday**, **down sharply from** a **year ago** – that has **sweetened** the **attraction of utilities**.

Among the best-performing utilities stocks are **American Water Works** Co., which is **up 11% for** the **month**; **Evergy** Inc., which serves customers in Kansas and Missouri, **up 11%;** and Atlanta- based **Southern** Co., **up 10%.**

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Tech, Utility Stocks Both Rally in Polarized Market

by Akane Otani – WSJ – Feb. 24, 2020

Risky investments have **rallied this year**. **So have safe ones**.

The tug of war across financial markets shows just how **divided** the **outlook** among investors is as they struggle to assess the economic toll of the growing coronavirus epidemic.

Within the stock market, the **two best-performing sectors** in the **S& P 500** in **2020** have been **technology and utilities**. That is **notable** because the two groups **often move** in **opposite directions** – with **technology stocks rallying when investors feel confident** in taking on riskier investments, and **utilities** and other safety stocks typically doing their best **when money managers** feel most **skittish about economic prospects**.

The **S& P 500 tech sector** is **up 8.2% for** the **year**, while **utilities** have **risen 8.3%. Both** groups have **significantly outperformed** the **broader index**, which has climbed **3.3% in 2020**.

"It's a really polarized market," said Art Hogan, chief market strategist at National Holdings.

Even as the S& P 500 hangs within a few percentage points of its record high, “we have all of this money plowing into harbors of safety,” he said.

Money managers and analysts had begun the year relatively optimistic about the global economy.

Risky assets like stocks had even been relatively resilient through some spurts of selling related to the coronavirus epidemic, with analysts attributing the calm to investors’ faith that the disease would be contained and that central banks would deploy enough stimulus to help offset a temporary pullback in growth.

In recent days, that **confidence** has shown **signs** of **faltering** – with **defensive** parts of the **stock** market, as well as the **price** of other **havens like gold and U.S. Treasurys racing higher**.

The **yield on the 30-year U.S. Treasury slipped to a record Friday**. **Yields fall as bond prices rise**. Gold, meanwhile, jumped 1.7%, ending at its highest level since February 2013.

Analysts have attributed the moves to **fears** that the **coronavirus epidemic** will disrupt consumer spending, manufacturing and supply chains around the world more than investors had expected.

Many firms’ initial estimates of the epidemic’s impact on growth had assumed that the disease would be contained within the first couple of months of the year. But in recent weeks, reports have shown the number of cases continuing to jump around the world, and multinationals like Apple Inc. have warned that their sales would take a hit because of a pullback in consumer spending. With that kind of dim outlook, investors might typically retreat from risky assets overall. But faith that U.S. multinationals – particularly big tech companies – are resilient enough to withstand a temporary slowdown in global growth has helped keep those shares higher.

Even with Friday’s pullback, **Netflix** Inc. is up 17% for the year. **Alphabet** Inc. has risen 11%, while **Microsoft** Corp. is up 13%.

It is difficult to imagine this disconnect being sustainable for long, Mr. Hogan said.

“Are we really pricing in recession fears? Or are people just so nervous they’ll pay for anything with yield?” he said.

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Treasury Yields Fall After Fed Decision

by Sam Goldfarb – WSJ – Jan. 30, 2020

The **yield** on the 10**-year U.S. Treasury note dropped** to its **lowest closing level** in **over three months** on **Wednesday** after the spreading **coronavirus** caused airlines to cancel flights to China and the Federal Reserve did little to change investors’ expectations that it could cut interest rates later in the year.

The **10-year yield** settled at **1.593%**, its lowest since Oct. 9, compared with 1.642% Tuesday.

Yields, which **fall when bond prices rise**, declined early in the session after **British Airways** said it would **halt flights** to **mainland China**, citing a drop in demand for travel as the number of people infected by the coronavirus climbed.

Bonds rallied further after **other airlines said** they were **canceling flights** to the country, reinforcing concerns that the virus will drag on global economic activity.

They got another boost after **Fed officials left interest rates unchanged** at the conclusion of their two-day policy meeting and made few changes to their previous post-meeting statement from December.

Federal-funds futures – which traders use to bet on the path of central-bank policy – showed after the meeting that investors thought there was a 69% chance that the Fed will cut rates by the end of its September meeting, according to CME Group data. That was up from 58% Tuesday.

Expectations that the Fed will cut rates tend to increase demand for shorter-term Treasurys by making their yields look more attractive by comparison

Growth fears also boost longer-term Treasurys by **increasing** the **appeal** of **safer assets** and **reducing expectations** for **inflation**.

The yield on the two-year Treasury note settled at 1.419%, down from 1.457% Tuesday and 1.569% on Jan. 17, the last trading session before a Chinese health official said the coronavirus was spreading between humans. The Fed cut rates three times last year, lowering its benchmark federal- funds rate to a range between 1.5% and 1.75%.

At a post-meeting press conference, Fed Chairman Jerome Powell acknowledged risks to the global economy, like the coronavirus, and causes for optimism, such as the recent U.S.-China trade agreement.

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Fed Holds Benchmark Rate Steady, Reaffirms Its Stance

by Nick Timiraos – WSJ – Jan. 30, 2020

Fed Chairman Jerome Powell said the central bank was monitoring the impact of the **coronavirus** on **China**. '**When China's economy slows** down, **we** do **feel that**,' he said.

The **Federal Reserve left** its **benchmark interest rate unchanged** and **reaffirmed** its make-**no-moves posture** while it gauges how rate cuts last year cushioned the U.S. economy against a spell of weaker global growth.

"We're **comfortable** with our **current policy stance** and we think it's appropriate," Fed Chairman Jerome Powell said Wednesday at a news conference after the central bank announced its decision.

But his comments suggested that **lingering risks** to the **global economy** and difficulty sustaining inflation at the Fed's 2% target **meant** that if **Fed** officials were to change rates, they would be **more likely** to **cut** them **than** to **raise** them.

Inflation has **held below** the **target** since the central bank formally adopted it in 2012, except for 2018, when Fed officials most recently raised interest rates. They reversed course last year and cut rates three times as the global economy slowed and inflation ran below **2%.**

"We're not satisfied with inflation running below 2%, particularly at a time such as now where we're a long way into an expansion and a long way into a period of very low unemployment, when in theory where inflation should be moving up," Mr. Powell said.

Mr. Powell and his colleagues have been considering changes to their inflation-targeting framework that would seek to stem falling consumer expectations of future inflation. The officials are concerned that low inflation and low nominal interest rates could hinder the Fed's ability to reduce rates to counteract a future recession.

"We have seen this dynamic play out in other economies around the world and we're determined to avoid it here in the United States," he said. Mr. Powell later said the review was designed to address how "ongoing powerful, global dis-inflationary trends" have hampered central banks around the world.

Mr. Powell's comments on inflation provided "a strong message that they're going to err on the side of providing more accommodation," said Kathy Bostjancic of Oxford Economics. "It's unclear at this point if that means they actually cut interest rates this year, but at a minimum, they're far, far away from considering interest-rate hikes."

The Fed's post-meeting statement Wednesday offered a mixed assessment of the economic outlook. It described consumer spending growth as moderate, a downgrade from "strong" in December, and said **business investment** had **remained weak**. All 10 members of the central bank's rate-setting committee voted to hold the Fed's benchmark federal-funds rate in a range of 1.5% to 1.75%.

To keep the rate trading near the midpoint of that range, they **also decided** to slightly **increase** a **separate** rate, the **interest rate paid on bank deposits**, **or reserves**, **held at** the **Fed**, **to 1.6%** from 1.55%.

The technical adjustment amounts to a housekeeping move after the **Fed flooded markets with cash** in **September** to **prevent money-market volatility from pushing** the **fed-funds rate out of** its **range**. The Fed had lowered the interest rate on reserves closer to the bottom of the fed-funds range in September as part of those efforts.

Since Fed officials' December meeting, financial markets had been ebullient due to a cease fire in trade hostilities between the U.S. and China, and the resolution of how the U.K. would leave the European Union. Reduced geopolitical uncertainty has been joined by glimmers of firmer global manufacturing activity.

But markets have turned jittery in recent days because of worries that the outbreak of the coronavirus in China could further slow the Chinese economy, with repercussions for global demand.

"There are grounds for what I would call cautious optimism for the global economy," Mr. Powell said. "We are **not** at all **assured of a global rebound** but there are signs and reasons to expect it – and then comes the coronavirus."

The Fed became especially sensitive to global developments last year, shelving in January 2019 plans to continue lifting rates before turning toward cutting them in July amid declines in market-based rates and unexpectedly soft inflation readings.

Mr. Powell said it was too soon to say how the virus would affect Chinese, global and U.S. growth. "There will clearly be implications of course in the near term for Chinese output, and I would guess for their close neighbors," he said. "We'll just have to see what the effect is globally."

Speaking more broadly, he said the Chinese economy – the world's second-largest – was very important for the global economy. "When China's economy slows down, we do feel that," he said.

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Utility Shares Jump on Shift to Safety

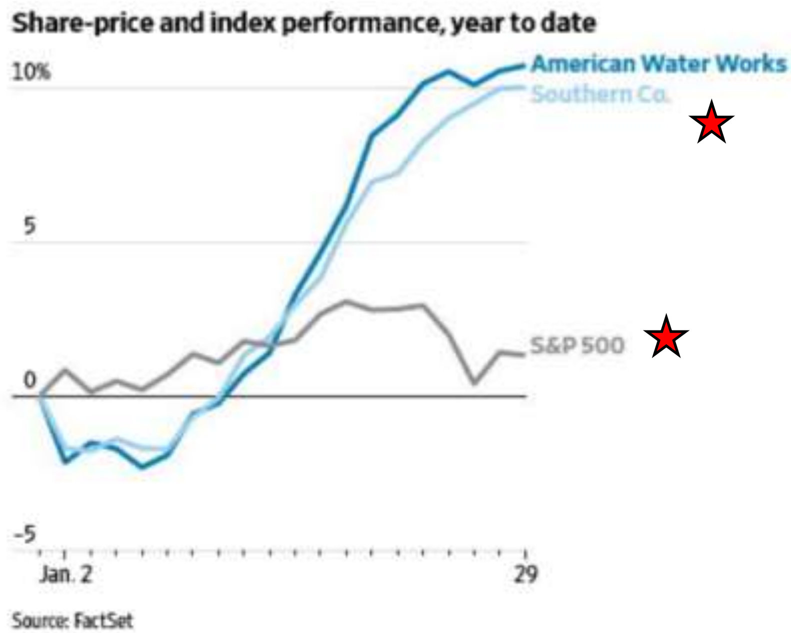
by Alexander Osipovich – WSJ – Jan. 30, 2020

Utilities stocks have been among this **month's winning bets** as the widening **corona-virus outbreak** has **sent investors scurrying for safety**.

The **sector** has **risen 6.1%** in the **S&P 500 so far in January**, on pace for its best month since June 2016, when the U.K.'s Brexit referendum sparked a broad market panic. The **S& P 500** itself is **up 1.3% for** the **month**.

Utilities are **outperforming every other sector in** the **index**, even inching ahead of the technology sector, which has been an investor darling in the long-running bull market. Tech stocks in the S& P 500 have climbed 5.9% to start 2020.

The **S&P 500's worst-performing sector**, **energy**, has **fallen 9.1%** as the outbreak that began in the central Chinese city of Wuhan has led to growing travel disruptions and sparked concerns that it could weigh on global economic growth. **Utilities are generally seen as** a **defensive play**, rising on fears of a market downturn, because **people still need to pay** their **gas and electric bills each month**, **even when** they **cut spending elsewhere**.



Many **utilities also pay dividends**, **allowing** their **investors** to **earn** a **bondlike income even if** the **companies' share prices don't appreciate much**.

With **low interest rates making bonds** themselves **less attractive** – the **yield** on the **10-year U.S. Treasury note** was **1.593% on Wednesday**, **down sharply from** a **year ago** – that has **sweetened** the **attraction of utilities**.

Among the best-performing utilities stocks are **American Water Works** Co., which is **up 11% for** the **month**; **Evergy** Inc., which serves customers in Kansas and Missouri, **up 11%;** and Atlanta- based **Southern** Co., **up 10%.**

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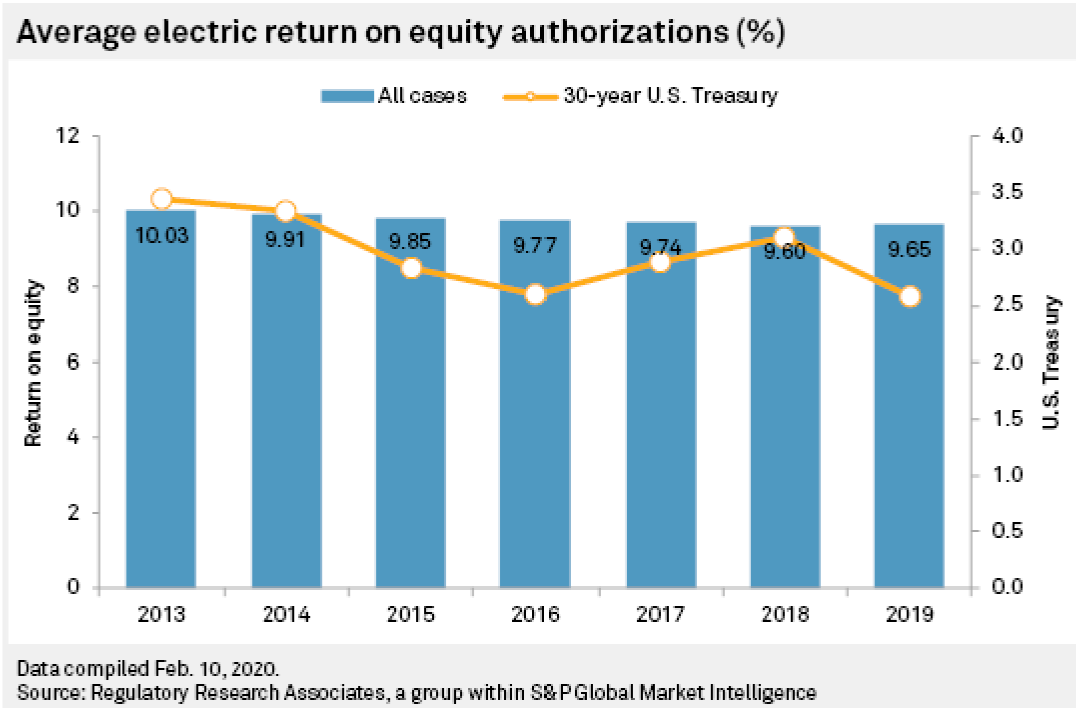
A Deep Dive into US Electric ROE Authorizations in 2019

by Lisa Fontanella – Regulatory Research Associates (RRA)
An Affiliate of S&P Global Market Intelligence – Feb. 12, 2020

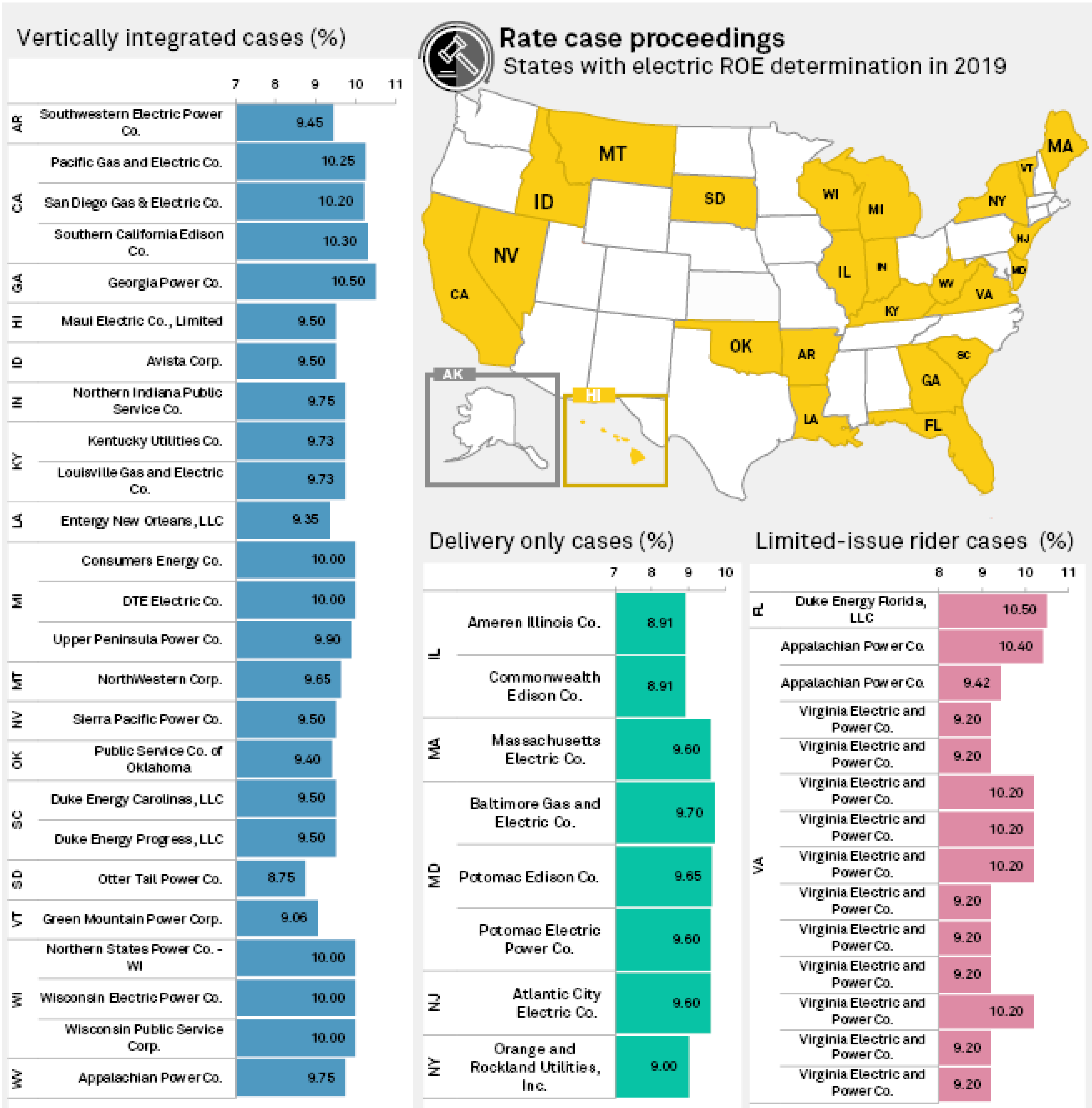
The overall average authorized electric return on equity edged up modestly in 2019 despite a declining interest rate environment. Based on data gathered by Regulatory Research Associates, a group within S&P Global Market Intelligence, the average return on equity authorized electric utilities was 9.65% in rate cases decided in 2019, just above the 9.60% average for cases decided in 2018. There were 47 electric ROE determinations in 2019, versus 48 in 2018.

While edging slightly upward overall, the average is still hovering around historic lows, and with the recent rate cuts by the U.S. Federal Reserve, lower authorized returns may be on the horizon. The **average allowed ROEs** for the **electric sector** have been **trending downward since the 1980s**, **consistent with** the **declining interest rate environment**. In addition, the **proliferation** of **automatic adjustment** and **investment recovery mechanisms** that **reduce** the **business risk** of a **utility** have often been cited as a contributing factor by commissions in authorizing lower ROEs.

Looking at recent years, the average ROE determinations for electric utilities have declined from 10.03% in 2013 to 9.65% in 2019. During this seven-year period, the **yield** on the **U.S. Treasury 30-Year bond** had increased slightly in 2017 and 2018 after bottoming out in 2016, but **slipped below 2016 levels in 2019** owing to the **Fed's three rate cuts**.



Excluding limited-issue rider cases, the average authorized ROE was 9.64% in electric rate cases decided in 2019, largely in line with the 9.56% average observed in 2018. The difference between the ROE averages including rider cases and those excluding the rider cases is driven by **ROE premiums** allowed in certain states for riders **that address recovery of specific generation projects**. For further information regarding rate of return trends, refer to RRA's latest Rate Case Decisions Quarterly Update.



Data compiled Feb. 10, 2020.
Source: Regulatory Research Associates, a group within S&P Global Market Intelligence

There were 47 electric ROE determinations in **2019** rendered in 24 different state jurisdictions. The ROE determinations authorized by state public utility commissions during this period ranged from 8.75% to 10.50%, with a **median of 9.60%** and an **average** of **9.65%.** Six states awarded an ROE of 10% or above – California, Florida, Georgia, Michigan, Virginia and Wisconsin. Only three states awarded an ROE of 9% or below – Illinois, New York and South Dakota.

Of the 47 ROE determinations in 2019, 25 were authorized in vertically integrated cases, eight were authorized in distribution only cases and 14 were authorized in limited-issue rider proceedings. In 2019, 20 of the 47 cases were settled and 27 were fully litigated.

The highest electric ROE approved for an electric company in a case decided in 2019 was 10.5%, which was awarded in a vertically integrated case as well as in a limited-issue rider proceeding.

In the 25 vertically integrated cases, authorized returns have ranged from 8.75% to 10.50%, averaging 9.73% in 2019, with a median of 9.73%.

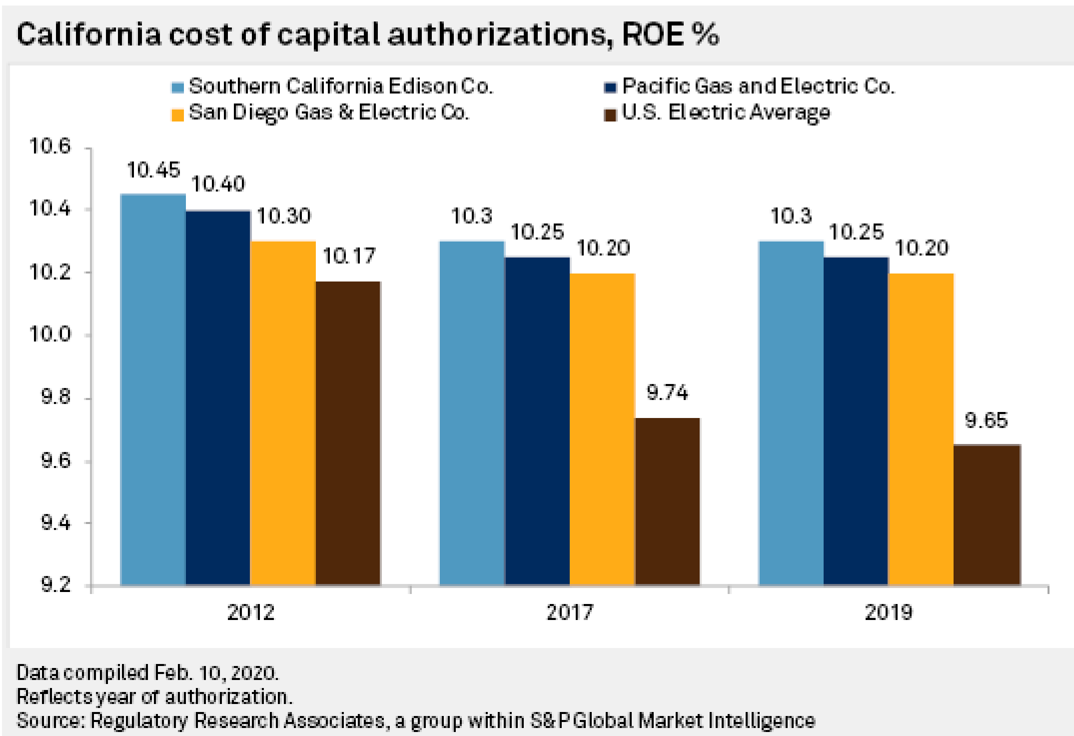
The highest ROE for the vertically integrated group, at 10.50%, was authorized by the Georgia Public Service Commission for Georgia Power Co. in December 2019, following the adoption of a partial, non-unanimous settlement providing for a three year alternative rate plan. The adopted 10.5% ROE and capital structure were litigated by the PSC and were not specified in the settlement. An earnings sharing mechanism is to be in place whereby sharing would occur if the utility's earned ROE falls outside a range of 10% to 12%. Any retail earnings above 12.00% will be shared, with 40% being applied to reduce regulatory assets, 40% directly refunded to customers and the remaining 20% retained by Georgia Power. There will be no recovery of any earnings shortfall below 9.50% on an actual basis. However, if at any time during the term of the 2019 alternative rate plan Georgia Power projects that its retail earnings will be below 9.50% for any calendar year, it could petition the PSC for implementation of an interim cost recovery tariff to adjust retail rates to achieve a 9.50% ROE. According to the PSC, adoption of a 10.5% ROE "appropriately balances the interests of the Company and its customers, and which the Commission finds to be just and reasonable."

The second highest ROE determination for this group was 10.3%, which was authorized by the California Public Utilities Commission for Edison International utility Southern California Edison Co., or SCE. The 10.3% ROE was adopted as part of the company's 2020 ratemaking cost of capital proceeding that established the returns for the utility for a three-year term effective Jan. 1, 2020. This was the first fully litigated cost of capital proceeding since new equity return parameters and capital structures were authorized by the PUC in 2012. In 2017, the PUC adopted a memorandum of understanding regarding 2018 and 2019 cost of capital issues.

SCE initially requested a 16.6% ROE comprised of a 10.6% base ROE for non-wildfire-related risks as well as an additional wildfire risk ROE of 6% that the utility would "seek to modify or remove upon a material change in SCE's wildfire cost recovery risk due to mitigating regulatory or legislative changes." SCE testified that its higher-than-average requested ROE accounts for the fact that investors can choose to invest in less-risky utilities outside of California and that its proposal aims to compensate investors for the increased risks they face. However, the utility updated its requested ROE to 11.45% from 16.6% as a result of the expected effects on SCE's wildfire-related risk profile of the passage of Assembly Bill AB 1054, which established a wildfire fund funded jointly by ratepayers and shareholder contributions.

According to the proposed decision, adoption of a 10.3% equity return "is reasonably sufficient to assure confidence in the financial soundness of the utility and to maintain investment grade credit ratings while balancing the interests between shareholders and ratepayers." The proposed order generally stated: "We find that the passage of AB 1054 and other investor supportive policies in California have mitigated wildfire exposure faced by California's utilities. Accordingly, the commission will not authorize a specific wildfire risk premium in the adopted ROE."

In **California**, PUC **ROE determinations** for the **state's largest utilities** have occurred **outside** of **general rate cases**, in cost of capital proceedings. In 2008, the PUC established a **three-year cycle** and a **cost of capital mechanism** that provides for possible annual adjustments in the intervening years based on movements in utility bond yields. Over the last several years, PUC ROE determinations have been above the prevailing industry averages at the time established.



The lowest authorized equity return for the vertically-integrated rate cases, at 8.75%, was authorized by the South Dakota Public Utilities Commission for Otter Tail Corp. subsidiary Otter Tail Power Co. In adopting this below industry average return, one of the commissioners opined that given "Otter Tail's forthcoming expansion and its track record of service, a return on equity of 8.75% achieves a fair balance of ratepayer and investor interest."

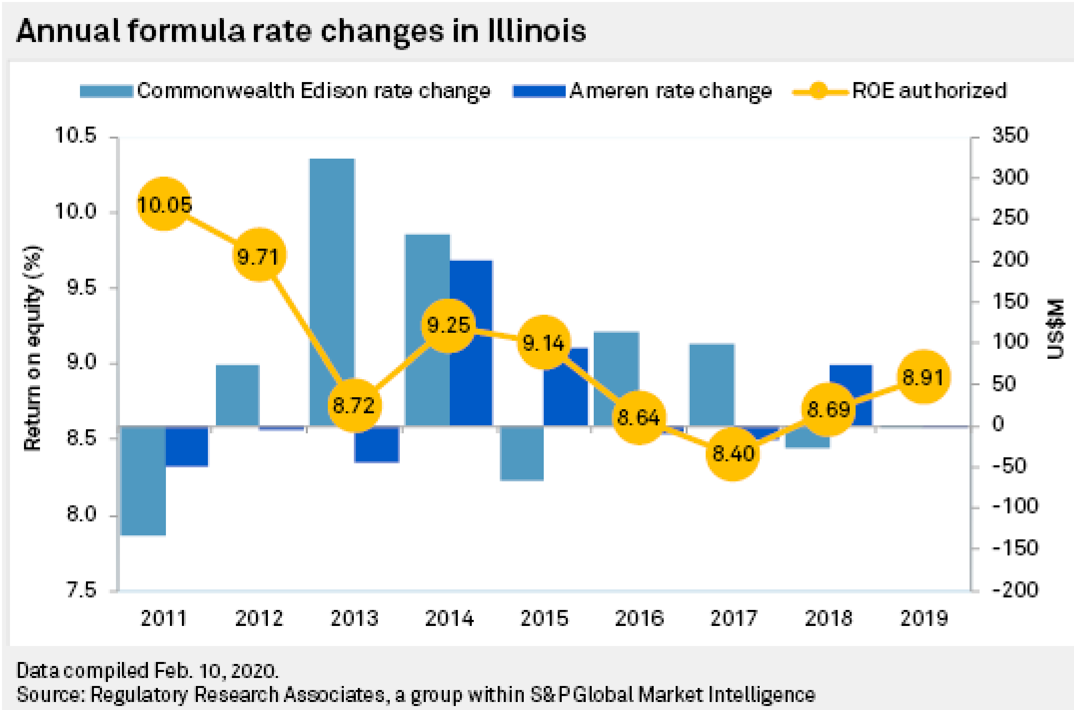
The second lowest ROE determination for this group was 9.06%, which was authorized by the Vermont Public Utility Commission for Green Mountain Power. The 9.06% ROE was adopted as part of the company's alternative regulation plan under which the authorized return is adjusted using a formulaic approach tied to U.S. Treasury bond yields.

The eight ROE authorizations rendered in delivery only cases ranged from 8.91% to 9.70%, averaging 9.37% in 2019, with a median of 9.60%.

For utilities engaged in distribution only operations, the highest return, at 9.70%, was authorized by the Maryland Public Service Commission for Exelon Corp. subsidiary Baltimore Gas and Electric Co., following a settlement. The settlement specifies that the electric rate increase is premised upon a 9.7% ROE. However, the agreement states that while this equity return would be used to calculate allowance for funds used during construction and for adjustments under the company's Electric Reliability Investment rider, it would "set no precedent, and have no broader applicability."

The second highest return for this group, at 9.65%, was also authorized by the Maryland PSC for FirstEnergy Corp. subsidiary Potomac Edison Co. in a fully-litigated case before the Maryland PSC. This Potomac Edison case was the first Maryland-jurisdictional rate case for the company in 25 years. The PSC stated that a 9.65% ROE "is just and reasonable and will be sufficient to meet Potomac Edison's capital needs." According to the commission, "that award recognizes that Potomac Edison is a stable distribution company that does not own generation in its Maryland rate base and that operates in a low-risk environment." The PSC rejected the company-proposed adjustments for business risk, credit risk and flotation costs.

The lowest ROEs authorized in 2019 for distribution only cases, at 8.91%, were authorized by the Illinois Commerce Commission for both Exelon Corp. subsidiary Commonwealth Edison Co. and Ameren Corp. subsidiary Ameren Illinois Co. in the utilities' ninth formula rate plan, or FRP, proceedings that were litigated in accordance with state law that allows for timely rate recognition of investments in electric infrastructure modernization projects. Since the FRP framework was codified in 2011, the companies have been authorized significant net rate increases to mitigate regulatory lag and ensure that the utilities earn a return consistent with the ROE approved under the framework. However, authorized ROEs, which are determined formulaically and can be reduced if the utilities fail to meet certain performance standards, have consistently been well below prevailing industry averages at the time established. Currently, formula ratemaking under the law extends through 2022.



The second lowest ROE, at 9%, was authorized by the New York Public Service Commission for Orange and Rockland Utilities Inc., or ORU, following the adoption of a settlement that provided for a three-year rate plan for the company's operations covering the period Jan. 1, 2019, through Dec. 31, 2021. The PSC has a long-history of adopting settlements containing multifaceted, multiyear rate plans that provide regulatory predictability during the course of the plan. In the instant case, the settlement contains earnings-sharing provisions if the company's earned return exceeds 9.6%. The PSC noted that the 9% ROE reflects a premium that "adequately recognizes the increased financial and business risks inherent in setting rates over a multi-year period." ORU is a subsidiary of Consolidated Edison Inc.

The 14 authorized ROEs in limited-issue rate cases decided in 2019 ranged from 9.20% to 10.50%, averaging 9.68% in 2019, with a median of 9.31%. The highest ROE, at 10.50%, was authorized by the Florida Public Service Commission for Duke Energy Corp. subsidiary Duke Energy Florida LLC pertaining to the company's investment in two solar projects – the 74.9-MW facility in Hamilton County, Fla., and the 74.9-MW facility in Columbia County, Fla.

The lowest authorized ROEs in limited-issue cases during 2019, at 9.20%, was authorized by the Virginia State Corporation Commission, or SCC, in several proceedings for Dominion Energy Inc. subsidiary Virginia Electric and Power Co., or VEPCO. In the context of a generic ROE proceeding concluded in November 2017, the SCC adopted a 9.20% generic base ROE to be used in VEPCO's generic rider proceedings.

2019 electric return on equity authorizations

Vertically integrated cases

Companies	State	Date of decision	ROE (%)	Decision type
Georgia Power Co.	GA	12/17/2019	10.50	Fully Litigated
Southern California Edison Co.	CA	12/19/2019	10.30	Fully Litigated
Pacific Gas and Electric Co.	CA	12/19/2019	10.25	Fully Litigated
San Diego Gas & Electric Co.	CA	12/19/2019	10.20	Fully Litigated
Consumers Energy Co.	MI	1/9/2019	10.00	Settled
DTE Electric Co.	MI	5/2/2019	10.00	Fully Litigated
Northern States Power Co. - WI	WI	9/4/2019	10.00	Settled
Wisconsin Electric Power Co.	WI	10/31/2019	10.00	Settled
Wisconsin Public Service Corp.	WI	10/31/2019	10.00	Settled
Upper Peninsula Power Co.	MI	5/23/2019	9.90	Settled
Appalachian Power Co.	WV	2/27/2019	9.75	Settled
Northern Indiana Public Service Co.	IN	12/4/2019	9.75	Settled
Kentucky Utilities Co.	KY	4/30/2019	9.73	Settled
Louisville Gas and Electric Co.	KY	4/30/2019	9.73	Settled
NorthWestern Corp.	MT	12/20/2019	9.65	Settled
Avista Corp.	ID	11/29/2019	9.50	Settled
Duke Energy Carolinas, LLC	SC	5/1/2019	9.50	Fully Litigated
Duke Energy Progress, LLC	SC	5/8/2019	9.50	Fully Litigated
Maui Electric Co., Limited	HI	5/16/2019	9.50	Settled
Sierra Pacific Power Co.	NV	12/24/2019	9.50	Settled
Southwestern Electric Power Co.	AR	12/20/2019	9.45	Settled
Public Service Co. of Oklahoma	OK	3/14/2019	9.40	Settled
Entergy New Orleans, LLC	LA	11/7/2019	9.35	Fully Litigated
Green Mountain Power Corp.	VT	8/29/2019	9.06	Fully Litigated
Otter Tail Power Co.	SD	5/14/2019	8.75	Fully Litigated
Average			**9.73**	
Median			**9.73**	

Delivery only cases

Companies	State	Date of decision	ROE (%)	Decision type
Baltimore Gas and Electric Co.	MD	12/17/2019	9.70	Settled
Potomac Edison Co.	MD	3/22/2019	9.65	Fully Litigated
Atlantic City Electric Co.	NJ	3/13/2019	9.60	Settled
Massachusetts Electric Co.	MA	9/30/2019	9.60	Fully Litigated
Potomac Electric Power Co.	MD	8/12/2019	9.60	Fully Litigated
Orange and Rockland Utilities, Inc.	NY	3/14/2019	9.00	Settled
Ameren Illinois Co.	IL	12/16/2019	8.91	Fully Litigated
Commonwealth Edison Co.	IL	12/4/2019	8.91	Fully Litigated
Average			**9.37**	
Median			**9.60**	

Limited-issue rider cases

Companies	State	Date of decision	ROE (%)	Decision type
Duke Energy Florida, LLC	FL	4/2/2019	10.50	Settled
Appalachian Power Co.	VA	1/2/2019	10.40	Settled
Virginia Electric and Power Co.	VA	2/27/2019	10.20	Fully Litigated
Virginia Electric and Power Co.	VA	2/27/2019	10.20	Fully Litigated
Virginia Electric and Power Co.	VA	2/27/2019	10.20	Fully Litigated
Virginia Electric and Power Co.	VA	7/3/2019	10.20	Fully Litigated
Appalachian Power Co.	VA	5/2/2019	9.42	Fully Litigated
Virginia Electric and Power Co.	VA	2/27/2019	9.20	Fully Litigated
Virginia Electric and Power Co.	VA	2/27/2019	9.20	Fully Litigated
Virginia Electric and Power Co.	VA	4/15/2019	9.20	Fully Litigated
Virginia Electric and Power Co.	VA	5/2/2019	9.20	Fully Litigated
Virginia Electric and Power Co.	VA	7/3/2019	9.20	Fully Litigated
Virginia Electric and Power Co.	VA	8/5/2019	9.20	Fully Litigated
Virginia Electric and Power Co.	VA	11/1/2019	9.20	Fully Litigated
Average			**9.68**	
Median			**9.31**	

All electric cases

Average	**9.65**	
Median	**9.60**	

Data compiled Feb. 10, 2020.
Reflects return authorizations in 2019.
Source: Regulatory Research Associates, a group within S&P Global Market Intelligence

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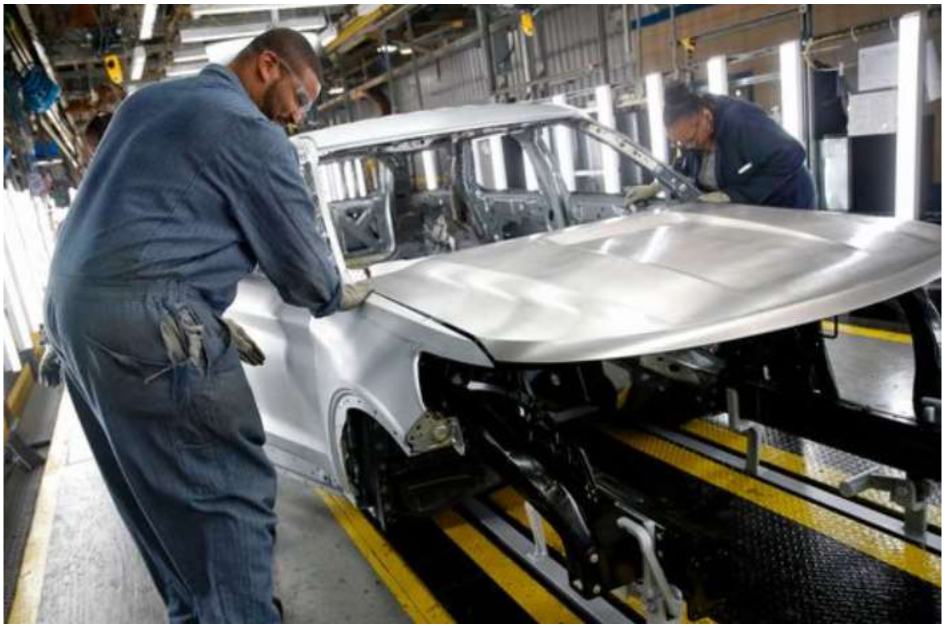
U.S. Economy Heads Into 2020 with Steady Growth

by Harriet Torry – WSJ – Jan 30, 2020

Fourth-quarter growth of 2.1% reflected boost from trade as exports increased; pace of consumer spending slows. Below: Ford's assembly plant in Chicago. Thursday's report suggests the U.S. economy is shifting back into a steady pace.



The **U.S.** economy headed into 2020 on a solid footing, with **growth settling back** to the **roughly 2% pace** that has **prevailed during** the **decade-old economic expansion**.

Gross domestic product – the value of all goods and services produced across the economy – **grew 2.3% last year**, after rising at a seasonally and inflation-adjusted annual rate of 2**.1% in** the **fourth quarter**, the Commerce Department said Thursday.

Year-over-year growth of 2.3% was the slowest pace since 2016, but in line with the **average pace** that has marked the expansion **that began** in **mid-2009**.

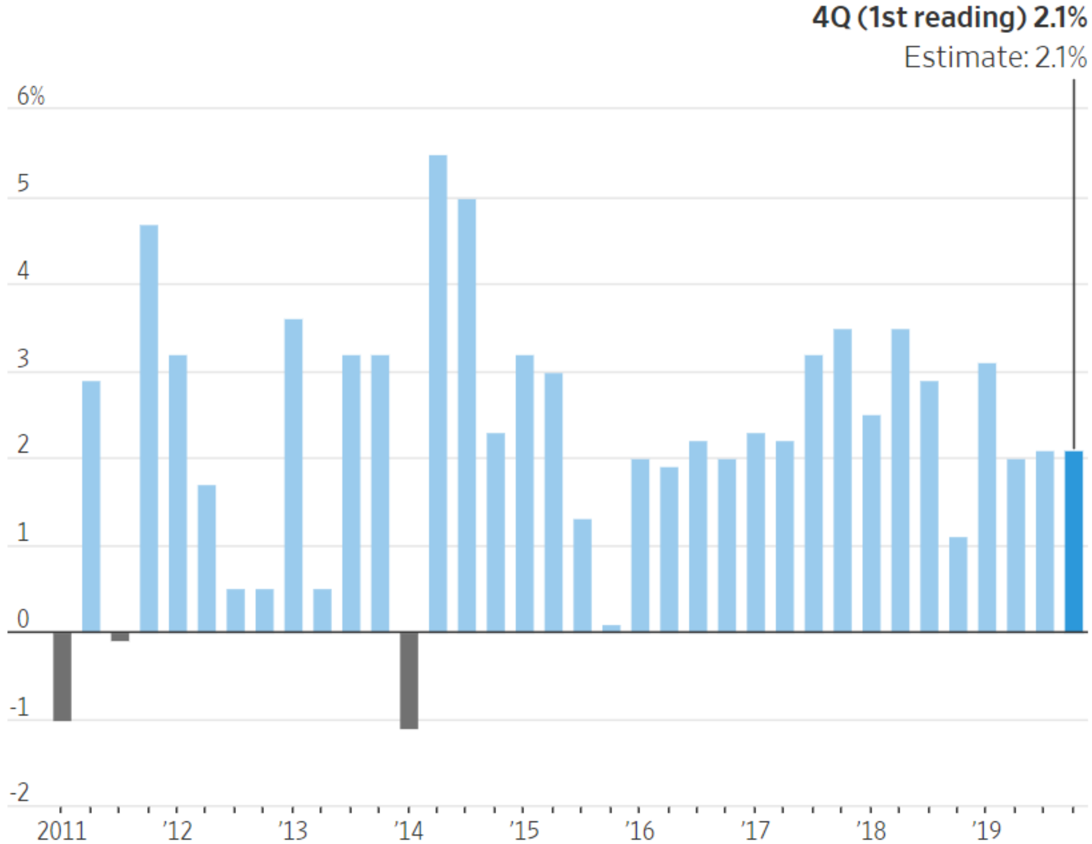
The economy was buffeted last year by the U.S.-China trade dispute and a slowing global economy, but was buoyed by a strong domestic labor market that fueled consumer spending and optimism.

Many economists expect the U.S. economy to grow at about the same pace in 2020, given the recent trade truce between the U.S. and China, forecasts for a rebound in global growth, low interest rates and upbeat American consumers.

Despite the hit to business investment from the trade war, "behind the scenes, we actually saw the consumer side looking pretty solid," said Brian Coulton, chief economist at Fitch Ratings.

The economy's expansion last quarter reflected a boost from trade as exports increased and imports dropped sharply, amid slower U.S. household spending and higher tariffs on imports from China.

Consumer spending rose at a 1.8% annual rate in the fourth quarter of 2019 from a 3.2% pace the prior quarter, and **business investment dropped** for the **third quarter in** a **row**, while residential investment picked up.



Source: Commerce Department

"Big picture, the headline growth was solid but masking some weakness" in domestic demand, said Jeremy Schwartz, an economist at Credit Suisse, citing slowing consumer spending and trade volatility.

The Federal Reserve left its benchmark interest rate unchanged on Wednesday, maintaining its make-no-move posture, after cutting rates three times in the second half of 2019. The **Fed expects moderate economic growth** to continue, Fed Chairman Jerome Powell said Wednesday.

Potential negatives for the economy **remain** on the horizon.

Boeing Co. **halted production** of its troubled **737 MAX aircraft** this month, a blow to U.S. manufacturing. Slowing growth in **China** and a **coronavirus** outbreak that originated there could also pose a risk to the global economic pickup many analysts expect for this year.

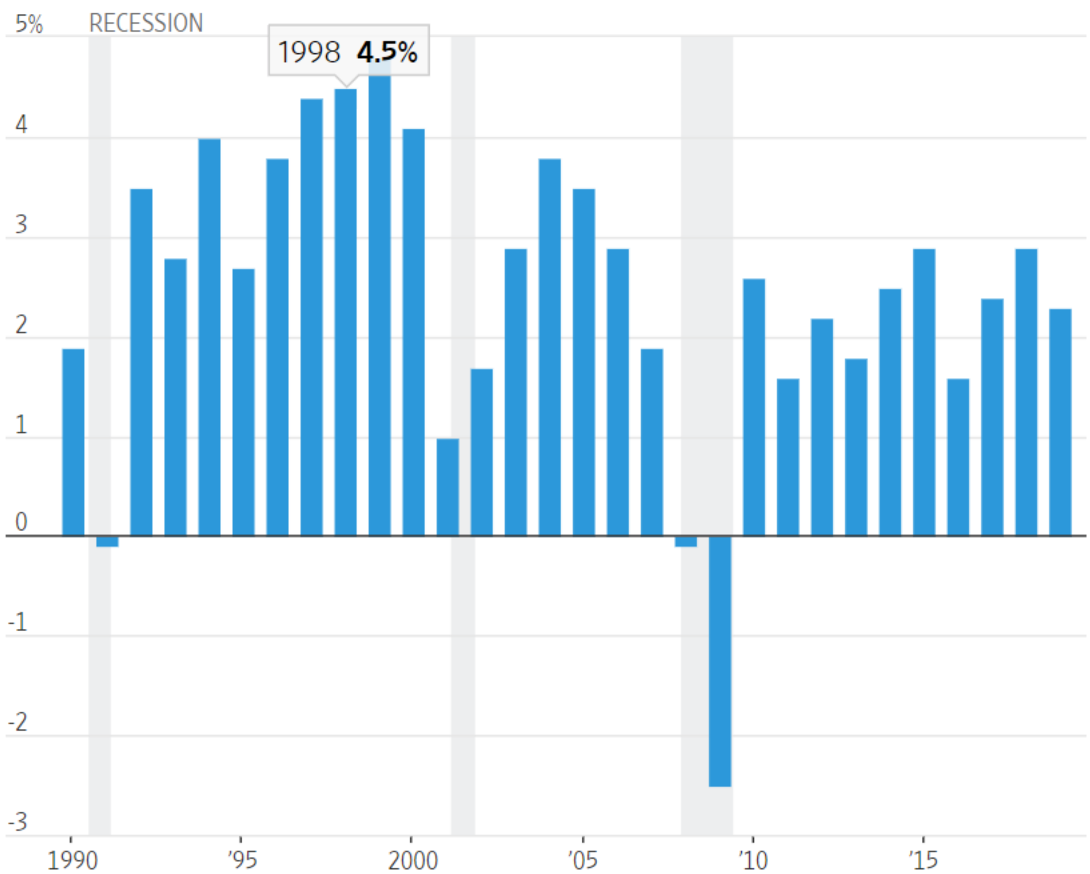
U.S. stocks edged lower amid **fears** of a **slowdown** in **global growth**. **Yields** on **10-year U.S. Treasury notes** also **fell below yields** on **three-month Treasury bills** on **Thursday**. This dynamic is known as an **inverted yield curve**, a condition that has preceded many recessions. It occurred at several points last year until the Fed cut short-term interest rates and started purchasing short-term Treasury bills.

Still, the U.S. is reaping the benefits of low unemployment and rising incomes. That is fueling high consumer confidence and continued, if slower, household spending.

MarkAnthoney Gildersleeve recently bought a new moped to commute to work. The 33-year-old said he feels "really good" about the economy because he has a good job as a mechanic in Washington, D.C. "I'm able to pay bills on time and enjoy my life," he said.

Businesses remained wary in the **fourth quarter**. A key measure of business spending – nonresidential fixed investment, reflecting **spending** on **commercial construction**, **equipment** and **intellectual property** products like software – **dropped for** the **third quarter in** a row.

GDP, percent change from preceding year



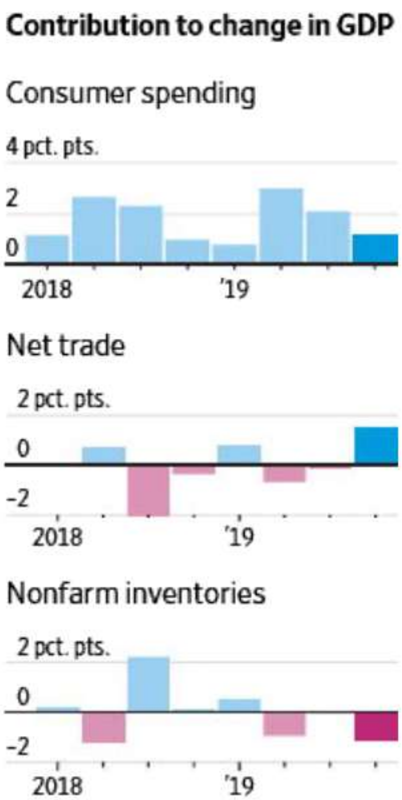
Source: Commerce Department

The case for an upside surprise to growth in 2020 relies heavily on renewed business investment in the wake of the Phase One trade deal" between China and the

U.S., said Eric Winograd, an economist at investment-management firm Alliance Bernstein.

Companies sensitive to trade disputes say **uncertainty over tariffs** remains a worry.

"The uncertainty of what's going to happen, it's very difficult to plan the future," said Phil Marfuggi, chief executive of The Ambrolia Company Inc., which imports cheese largely from Italy.

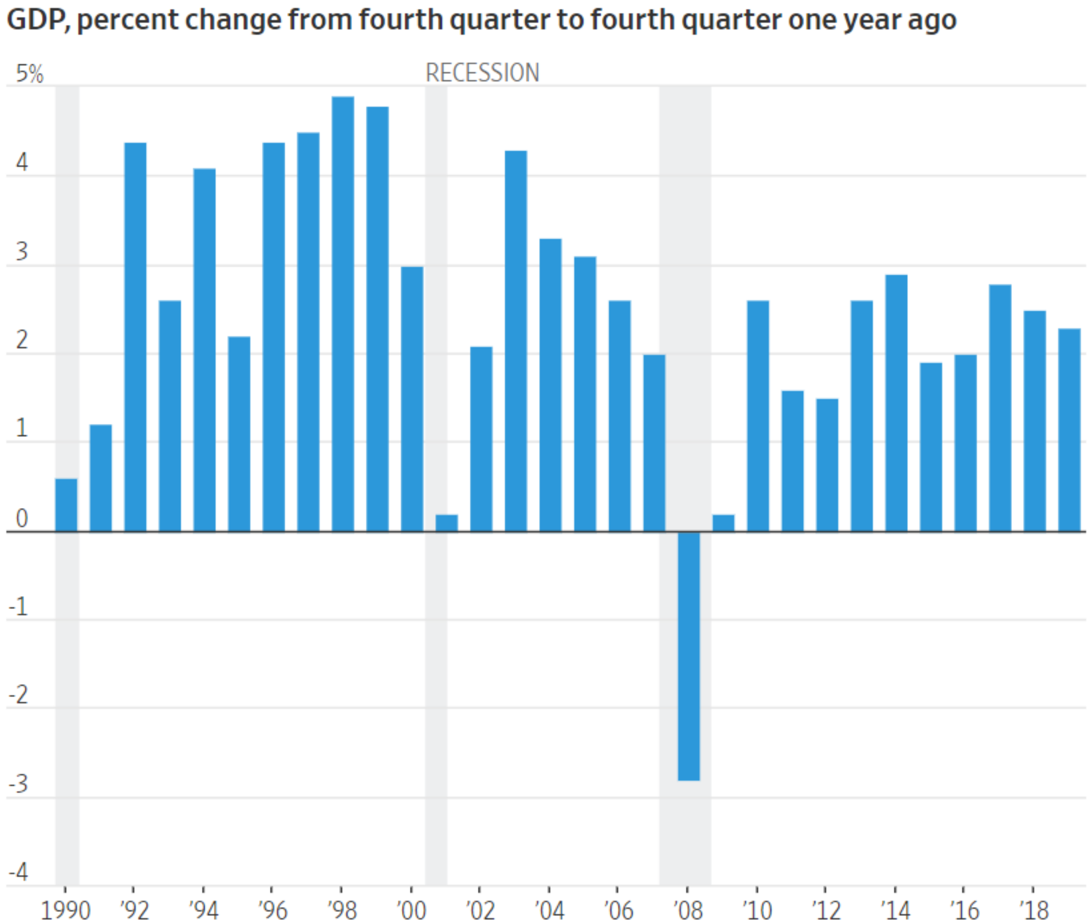


The West Caldwell, N.J.-based company has put the brakes on hiring and executives' travel spending because of the uncertainty. It also halted plans for a new facility for cutting, wrapping and grating cheese due to the U.S. move in October to impose 25% tariffs on food products, among other goods, from the European Union.

Two volatile categories, trade and inventories, had an outsize impact on fourth-quarter growth. Overall private-sector inventories subtracted 1.1 percentage point from the fourth quarter's growth rate. A decline in retail inventories, notably at motor-vehicle dealers, came as the United Auto Workers union nationwide strike at General Motors Co. ran through most of October.

Meantime, net exports added 1.48 percentage point to the quarter's 2.1% growth rate, the largest contribution since the second quarter of 2009. Exports rose at a 1.4% annual rate and imports dropped at an 8.7% pace.

The **current expansion** became the **longest on record** in July and it is now **midway through** its **11th year**. The **average pace** of **growth hovered just above 2%, slower than** the **2.9%** rate during the **2001-2007** expansion and the **3.6%** rate from early **1991-2001**.



The **$1.5 trillion tax cut passed by Congress** in late 2017 was part of President Trump's **plan to boost economic growth** to the **above**-3**% annual growth** rate that marked previous robust expansions, but that outcome **hasn't materialized**.

Full-year growth fell slightly short of that level in 2018, immediately after the tax cut passed. **The 2.3% year-over-year growth** in 2019 was **well below** the **3.1% level** that the **White House projected**.

The White House Council of Economic Advisers on Thursday said the **global slowdown**, **trade**, the **Fed's interest-rate policies**, **Boeing's** production issues and the **GM strike** were among factors that **held back U.S. growth**. It said the recently signed trade deal with China and the U.S.-Mexico-Canada Agreement should reduce uncertainty, which, combined with growth in consumer spending and residential investment "provide reason to expect that the economy has further room to expand in 2020."

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Utilities Outperform in January Amid Broader Market Turmoil

by Charlotte Cox – Regulatory Research Associates (RRA)
An affiliate of S&P Global Market Intelligence – Feb 6 2020
Heike Doerr contributed to this article

Within the energy and water utility coverage universe of Regulatory Research Associates, a group within S&P Global Market Intelligence, the **electric**, multi-utility and **water** groups **gained 7.5%,** 4.4% and **4.5%, respectively**, in January, while the **gas** group was **down 1.7%.** PG&E Corp.'s 39.9% gain during the month pulled the electric group average up; excluding PG&E, the electric utilities averaged a 6.2% bump for the month.

Energy and water utilities continued their **outperformance** compared to broader markets in January, with the RRA utility universe rising an average of 4.8%, compared to a decline of 0.2% for the S&P 500 and an increase of 2.0% for the Nasdaq Composite. In economic developments, the advance estimate of **fourth-quarter GDP** indicates an **increase** of **2.1%**, signaling a continuation of **moderate economic growth**.

On the regulatory front, decisions could be issued during February in two dozen pending rate cases followed by RRA, including the $353.3 million electric base rate increase supported by Xcel Energy Inc. subsidiary Public Service Co. of Colorado, the $44.8 million electric rate increase supported by Avangrid Inc. subsidiary Central Maine Power Co., and the $59.1 million electric rate increase requested by American Electric Power Co. Inc. subsidiary AEP Texas Inc.

Top Performers

PG&E Corp. was the **best-performing utility overall in January**, gaining 39.9% compared to the overall average gain of 4.8%. **However**, in **full year 2019**, PG&E Corp. was by far the **worst-performing stock in** the **group**, with a **<u>54.2% decline</u>**. The company filed for Chapter 11 bankruptcy in January 2019 and continues to work through the bankruptcy process. U.S. bankruptcy court Judge Dennis Montali recently approved confidential settlements regarding the company's wildfire liabilities, this time with 18 victims of the October 2017 Tubbs fire in Napa and Sonoma counties, which killed 22 people, destroyed 5,636 structures and burned 36,807 acres. As a result, a scheduled jury trial in state court will not be held. Additionally, PG&E Corp. reached an agreement with a group of utility bondholders, and as part of the agreement, the bondholders have consented to withdraw their alternative bankruptcy restructuring plan.

Atmos Energy Corp. was the top-performing gas utility in January, gaining 4.6%. Over the last 12 months, the Atmos shares have jumped 19.9%, well above the gas group average increase of 2.8%, and currently trade at a 23x price-to-earnings ratio based on S&P Global Market Intelligence consensus estimates for 2021, above the 21x gas group average. **Warmer temperatures** have **depressed seasonal gas demand** recently, although colder weather could return to the northern U.S. later in February. Gas stocks on average lagged in January, losing 1.7%, after warmer temperatures depressed seasonal gas demand. In addition, **companies with exposure** to **gas exploration and production** activities, such as National Fuel Gas Co. have felt the squeeze from lower wholesale gas prices.

CMS Energy Corp. was the best-performing multi-utility in January, gaining 9.0% after two months of underperformance. On Jan. 30, the company reported fourth-quarter 2019 adjusted earnings of 69 cents per share, matching the S&P Global Market

Intelligence consensus estimate and surpassing year-ago adjusted earnings of 39 cents per share. Management increased CMS's earnings guidance for 2020 to a range of $2.64 to $2.68 per share, and updated the company's capital expenditure plan to $12.25 billion in investments from 2020 through 2024 from the previous plan of $11.75 billion from 2019 through 2023.

American Water Works and Essential Utilities share price change (%)

Through Jan. 31, 2020.
Source: S&P Global Market Intelligence

American Water Works Co. Inc. **and Essential Utilities** Inc. – **previously known as Aqua America Inc**. – **each appreciated over 10% during** the **month** of **January**, on the heels of strong stock performance in 2019. As shown in the following graph, the stock performance of the two largest investor-owned water utilities has been highly correlated for some time. The divergence experienced in November 2018 came on the heels of Aqua's announcement that the company intended to **acquire** the largely Pennsylvania-centric **Peoples Natural Gas**. As natural gas utilities trade at a lower price to earnings multiple than water utilities, this announcement that the company was diluting its pure-play water business model was initially met with some investor uncertainty. **Aqua America recently completed** the **transaction** and **changed** its **name to Essential Utilities effective Feb. 3**.

Share Price Volatility

Smaller-cap companies generally have lower trading liquidity and therefore, all **other things** being **equal**, **tend** to **have more significant share price swings** than larger-cap equities. An analysis of the standard deviation of log-normalized daily price returns for utility stocks over the last year supports this thesis, with the **generally smaller-cap gas** and **water utility sectors** displaying the **highest average price volatility**. In addition, **some gas and water stocks** have been **attractive as potential takeover candidates**. **Average price volatility** in the overall energy and water utility group was about **15% in January**.

PG&E Corp. continued to claim the top spot for **volatility** in January with 64%, down from the previous month's 108% volatility. **South Jersey Industries** Inc. was next with **25%**, while The **York Water** Co. came in third **at 23%**. Utilities with the lowest price volatility in January included Duke Energy Corp. at 9%, Ameren Corp. with 8%, and El Paso Electric Co. with 2%. **El Paso Electric** is the **target** of a **proposed acquisition by private investors**.

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Yield on 10-Year U.S. Treasury Note Hits Record Low

by Sam Goldfarb – WSJ – Feb 25 2020

Benchmark bond yield settles at **1.328%**, breaching previous low set in July 2016.

The **yield** on the benchmark **10-year U.S. Treasury note fell to** an **all-time low Tuesday** as stocks swooned for a second straight day, driven by worries the coronavirus could seriously disrupt an already sluggish global economy.

The fall in yields marked the latest milestone in a decades-long bond rally driven by **persistently low inflation**. After hovering between 1.5% and 2% for months, the 10-year yield was pushed sharply lower by reports the **coronavirus** was **spreading outside China**. The Centers for Disease Control and Prevention warned Tuesday of an increased threat to U.S. residents.

As **investors fled riskier assets for bonds**, the Dow Jones Industrial Average lost more than 3% Tuesday, and has notched a two-day decline of more than 1,900 points, or 6.6%, to close at its lowest level since October. The two-session rout has cut an estimated $1.7 trillion from the S&P 500, according to S&P Dow Jones Indices.

Daily Treasury Yield Curve Rates

Date	1 yr	2 yr	3 yr	5 yr	7 yr	10 yr	20 yr	30 yr
2/25/2020	1.30	1.20	1.16	1.16	1.25	1.33	1.63	1.80

Source: U.S. Department of the Treasury -- Resource Center