WORKPAPERS TO
REBUTTAL TESTIMONY OF ADRIEN M. MCKENZIE

INDEX

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INDEX

RWP-24	Deloitte, "From growth to modernization, the changing capital focus of the US utility sector," (2016), available at: https://www2.deloitte.com/content/dam/Deloitte/us/Documents/energy-resources/us-er-from-growth-to-modernization.pdf
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Society of Utility and
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Society of Utility and Regulatory
Financial Analysts

THE COST OF CAPITAL –

A PRACTITIONER'S GUIDE

BY

DAVID C. PARCELL

PREPARED FOR THE SOCIETY OF UTILITY
AND REGULATORY FINANCIAL ANALYSTS
(SURFA)

2010 EDITION

Author's Note: This manual has been prepared as an educational reference on cost of capital concepts. Its purpose is to describe a broad array of cost of capital models and techniques. No cost of equity model or other concept is recommended or emphasized, nor is any procedure for employing any model recommended. Furthermore, no opinions or preferences are expressed by either the author or the Society of Utility and Regulatory Financial Analysts.

CHAPTER 7

COMPARABLE EARNINGS

The comparable earnings method ("CE" or "CEM") is the "granddaddy" of cost of equity methods, as it is derived from the "corresponding risk" standard of the *Bluefield* and *Hope* cases. This method is based upon the economic concept of "opportunity cost." As noted previously the cost of capital is an opportunity cost: the prospective return available to investors from alternative investments of similar risk. If, in the opinion of those who save and commit capital, the prospective return from a given investment is not equal to that available from other investments of similar risk, the available capital will tend to be shifted to the alternative investments. Through this mechanism, opportunity-cost-driven pricing signals direct capital to its most productive uses; thus, a free enterprise system promotes an efficient allocation of scarce resources.

The established legal standards are consistent with the opportunity cost principle. The two Supreme Court cases most frequently cited (*Bluefield* and *Hope*) hold that: the return to the equity owners be sufficient to maintain the credit of the enterprise and confidence in its financial integrity; to permit the enterprise to attract required additional capital on reasonable terms; and, to provide the enterprise and its investors with an earnings opportunity commensurate with the returns available on investments in other enterprises having corresponding risks.

These three interrelated criteria constitute a succinct statement of the opportunity cost principle. An expected return on equity equal to that which can be realized on alternative investments of corresponding risk will, in turn, be sufficient to assure confidence in the financial integrity of the enterprise, to maintain its credit, and to permit it to attract new capital on reasonable terms.

The comparable earnings method is designed to measure the returns expected to be earned on the original cost book value of similar risk enterprises. Thus, this method provides a direct measure of the fair return, since it translates into practice the competitive principle upon which regulation rests.

The comparable earnings method normally examines the experienced and/or projected returns on book common equity. The logic for returns on book equity follows from the use of original cost rate base regulation for public utilities which uses a utility's book common equity to determine the cost of capital. This cost of capital is, in turn, used as the fair rate of return which is then applied (multiplied) to the book value of rate base to establish the dollar level of capital costs to be recovered by the utility. This technique is thus consistent with the rate base – rate of return methodology used to set utility rates.

It is maintained that the comparable earnings standard is easy to calculate and the amount of subjective judgment required is minimal. The method avoids several of the subjective factors involved in other cost of capital methodologies. For example, the DCF method requires the determination of the growth rate contemplated by investors, which is a subjective factor. The CAPM requires the specification of several expectational variables, such as market return and beta. In contrast, the comparable earnings approach makes use of readily available accounting data.

In addition, this method is easily understood and is firmly anchored in regulatory tradition (i.e., *Bluefield* and *Hope*). The method is not influenced by the regulatory process to the same extent as market-based methods such as DCF and CAPM. The base to which the comparable earnings standard is applied is the utility's book common equity, which is much less vulnerable to regulatory influences than stock price which is the base to which the market-based standards are applied. Stock price can be influenced by the actions of regulators.

The rationale for the comparable earnings technique is aptly stated by Morin (2006, 394):

> "Although the Comparable Earnings test does not square well with economic theory, the approach is nevertheless meritorious. If the basic purpose of comparable earnings is to set a fair return rather than determine the true economic return, then the argument is academic. If regulators consider a fair return as one that equals the book rates or return earned by comparable risk firms rather than one that is equal to the cost of capital of such firms, the Comparable Earnings test is relevant. This notion of fairness, rooted in the traditional legalistic interpretation of the *Hope* language, validates the Comparable Earnings test."

NEW REGULATORY FINANCE

Roger A. Morin, PhD

2006
PUBLIC UTILITIES REPORTS, INC.
Vienna, Virginia

the earnings requirement of utilities is determined by applying a percentage rate of return to the book value of a utility's investment, and not on the market value of that investment. Therefore, it stands to reason that a different percentage rate of return than the market cost of capital be applied when the investment base is stated in book value terms rather than market value terms. In a competitive market, investment decisions are taken on the basis of market prices, market values, and market cost of capital. If regulation's role was to duplicate the competitive result perfectly, then the market cost of capital would be applied to the current market value of rate base assets employed by utilities to provide service. But because the investment base for ratemaking purposes is expressed in book value terms, a rate of return on book value, as is the case with Comparable Earnings, is highly meaningful.

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Vienna, Virginia

EXAMPLE 9-1

Southeastern Electric's sustainable growth rate is required for upcoming rate case testimony. As a gauge of the expected return on equity, authorized rates of return in recent decisions for eastern U.S. electric utilities as reported by Value Line for 2005 and 2006 averaged 11%, with a standard deviation of 1%. In other words, the majority of utilities were authorized to earn 11%, with the allowed return on equity ranging from 10% to 12%. As a gauge of the expected retention ratio, the average 2006 payout ratio of 34 eastern electric utilities as compiled by Value Line was 60%, which indicates an average retention ratio of 40%, with a standard deviation of 5%. This was consistent with the long-run target retention ratio indicated by the management of Southeastern Electric. It is therefore reasonable to postulate that investors expect a retention ratio ranging from 35% to 45% for the company with a likely value of 40%. In Table 9-4 below, expected retention ratios of 35% to 45% and assumed returns on equity from 10% to 12% are multiplied to produce sustainable growth rates ranging from 3.8% to 5.4% with a likely value of 4.6%.

TABLE 9-4
SUSTAINABLE GROWTH METHOD ILLUSTRATION

Expected Retention Ratio (b)	Expected Return on Book Equity (r)		
	10%	11%	12%
35%	3.5%	3.9%	4.2%
40%	4.0%	4.4%	4.8%
45%	4.5%	5.0%	5.4%

It should be pointed out that published forecasts of the expected return on equity by analysts such as Value Line are sometimes based on end-of-period book equity rather than on average book equity. The following formula[15]

[15] The return on year-end common equity, r, is defined as $r = E/B_t$, where E is earnings per share, and B_t is the year-end book value per share. The return on average common equity, r_a, is defined as: $r_a = E/B_a$ where B_a = average book value per share. The latter is by definition: $B_a = (B_t + B_{t-1})/2$ where B_t is the year-end book equity per share and B_{t-1} is the beginning-of-year book equity per share. Dividing r by r_a and substituting:

$$\frac{r}{r_a} = \frac{E/B_t}{E/B_a} = \frac{B_a}{B_t} + \frac{B_t + B_{t-1}}{2B_t}$$

Solving for r_a, a formula for translating the return on year-end equity into the return on average equity is obtained, using reported beginning-of-the year and end-of-year common equity figures:

$$r_a = r\,\frac{2B_t}{B_t + B_{t-1}}$$

adjusts the reported end-of-year values so that they are based on average common equity, which is the common regulatory practice:

$$r_a = r_t \frac{2B_t}{B_t + B_{t-1}} \tag{9-10}$$

The sustainable growth method can also be extended to include external financing. From Chapter 8, the expanded growth estimate is given by:

$$g = br + sv$$

where b and r are defined as previously, s is the expected percent growth in number of shares to finance investment, and v is the profitability of the equity investment. The variable s measures the long-run expected stock financing that the utility will undertake. If the utility's investments are growing at a stable rate and if the earnings retention rate is also stable, then s will grow at a stable rate. The variable s can be estimated by taking a weighted average of past percentage increases in the number of shares. This measurement is difficult, however, owing to the sporadic and episodic nature of stock financing, and smoothing techniques must be employed. The variable v is the profitability of the equity investment and can be measured as the difference of market price and book value per share divided by the latter, as discussed in Chapter 8.

There are three problems in the practical application of the sustainable growth method. The first is that it may be even more difficult to estimate what b, r, s, and v investors have in mind than it is to estimate what g they envisage. It would appear far more economical and expeditious to use available growth forecasts and obtain g directly instead of relying on four individual forecasts of the determinants of such growth. It seems only logical that the measurement and forecasting errors inherent in using four different variables to predict growth far exceed the forecasting error inherent in a direct forecast of growth itself.

Second, there is a potential element of circularity in estimating g by a forecast of b and ROE for the utility being regulated, since ROE is determined in large part by regulation. To estimate what ROE resides in the minds of investors is equivalent to estimating the market's assessment of the outcome of regulatory hearings. Expected ROE is exactly what regulatory commissions set in determining an allowed rate of return. In other words, the method requires an estimate of return on equity before it can even be implemented. Common sense would dictate the inconsistency of a return on equity recom-

MOODY'S
INVESTORS SERVICE

US Regulated Utilities

Regulation Will Keep Cash Flow Stable As Major Tax Break Ends

Our outlook for the US regulated utility industry is stable. This outlook reflects our expectations for the fundamental business conditions in the industry.

» **Cost-recovery mechanisms, coupled with annual base-rate increases, will keep the ratio of industry-wide cash flow to debt at about 18%, within our range for a stable outlook.** Favorable rate orders are part of what we view as a broader shift toward stronger regulatory support for the industry, all the more important this year given the end of bonus depreciation. Industry regulation is the most important driver of our outlook.

» **Ratemaking mechanisms, such as revenue decoupling and riders, allow utilities to recover costs faster and improve the quality, predictability and stability of cash flow.** The ratio of cash flow to gross profit for a peer group of 122 US operating companies has been more stable on a year-over-year basis since 2009, as the use of riders in regulatory agreements has become more commonplace.

» **We are also seeing signs of improved regulatory support in historically contentious states, such as Connecticut and Illinois.** Stronger recovery mechanisms put in place last year for Connecticut Natural Gas Corp. (A3 stable) and Commonwealth Edison Co. (Baa1 stable) in Illinois will likely make cash flow more predictable for utilities in each state. This marks a turnaround in both states, where regulatory support was lacking for certain cost-recovery provisions in the past.

» **Stagnant customer demand is leading some utilities to pursue shareholder growth through financial engineering.** Some companies are restructuring their businesses by creating master limited partnerships and "yieldcos" to defend their historically high equity multiples. For now, credit risks are limited but so are any benefits for bondholders, and these structures may weaken sponsor credit quality over time.

» **What could change our outlook.** We could shift our outlook to positive if the ratio of cash flow to debt rose toward 25% on a sustainable basis, which could happen if return on equity rises or utilities deleverage significantly. A more contentious regulatory environment that resulted in a material deterioration in cash flow, such that the ratio fell to 13%, could cause us to have a negative outlook.

Supportive regulatory relationships drive our stable outlook

Regulatory support will help US electric and gas utilities maintain stable credit profiles in 2014, even with stagnant customer demand and without the cash-flow boost from bonus depreciation.

Fundamentally, the regulatory environment is the most important driver of our outlook because it sets the pace for cost-recovery. Favorable rate orders, even in states where utilities have had contentious regulatory relationships in the past, are part of what we view as a broader shift toward stronger regulatory support for the industry.

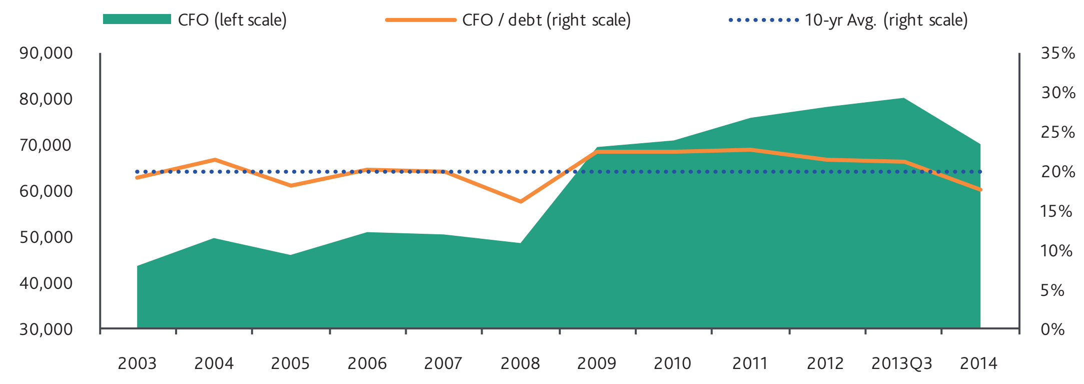
The improved regulatory framework, led by special cost-recovery mechanisms and annual base-rate increases, is all the more important this year for two reasons. First is the end of bonus depreciation, a temporary tax break that expired on December 31. We incorporate a view that bonus depreciation will not be extended; however, various corporate sectors are currently lobbying for the extension in 2014. Second is stagnant customer demand, which is also leading some utilities to pursue shareholder growth through financial engineering (please see page 6).

As Exhibit 1 shows, the ratio of cash flow to debt will decline this year to 18%, just below the 10-year trend line but within our range for a stable outlook. The decline is largely because of higher cash taxes, but utilities can still get some tax relief in 2014 by applying net operating loss carry-forwards (from factors unrelated to bonus depreciation) from past years to this year's tax payments—an option they didn't use when bonus depreciation was in effect.

We would likely shift our outlook to positive if the ratio of cash flow to debt rose to 25%, although that would take a marked increase in regulatory-allowed ROE levels or steps by utilities to scale back their dividend and stock-repurchase plans. A more contentious regulatory environment or a widespread adoption of more-aggressive financial strategies resulting in a material deterioration in cash flow, such that the ratio fell to 13%, would likely lead to a negative outlook.

EXHIBIT 1

Cash Flow to Debt Will Hover Below the 10-Year Average



Notes: Figures are in thousands of US dollars. A list of the 122 utilities included in our analysis starts on page 7. Data for the third quarter of 2013 are the latest available. Data for 2014 are our estimates.
Source: Moody's Investors Service

Improved regulatory environment means stable, more predictable cost-recovery

The US regulatory environment has improved significantly in the past year, providing for faster and more-certain cost-recovery in 2014.

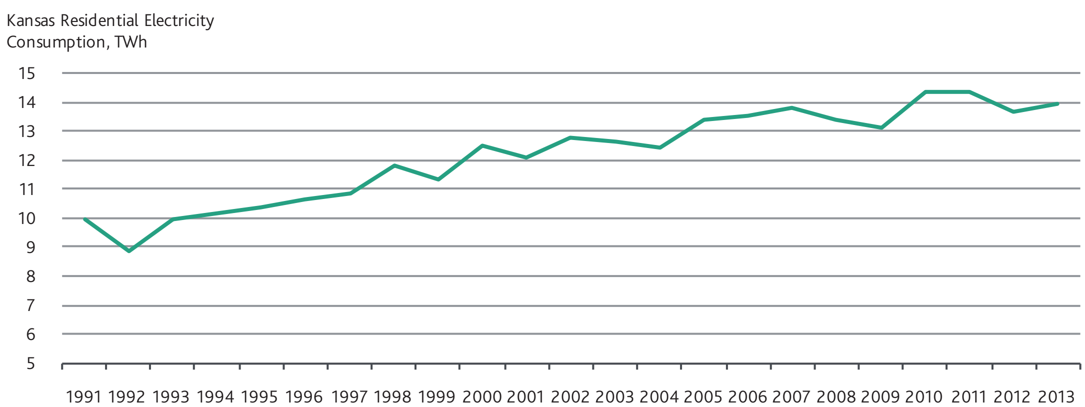
Puget Sound Energy Inc.'s (PSE; Baa1 stable) June 2013 rate order is a good example. Its regulator, the Washington Utilities and Transportation Commission, approved the decoupling of electric and gas revenue from sales volume, and a property-tax tracker that provides more-efficient recovery of property-tax expense. The commission acknowledged a need to reduce regulatory lag times by expediting the utility's rate filings and offering more real-time true-up of costs during rate filings. The regulator also provided the company with forward-looking annual revenue adjustments (about 3% for electric and 2% for gas) over the next three years. As a result of these changes, we expect that Puget Sound's cash-flow-to-debt ratio will continue to surpass 20%, exceeding the industry average, even without the cash-flow benefit of bonus depreciation.

Another example is Westar Energy Inc.'s (Baa1 stable) 2013 abbreviated rate case with the Kansas Corporation Commission. In addition to providing incremental cost-recovery for environmental upgrades, the regulator allowed Westar to increase its monthly fixed charge on customer bills. This movement in rate design will allow Westar to recover a greater portion of its fixed costs through fixed rates, rather than volumetric rates, thereby reducing Westar's dependency on selling higher volumes to recover fixed costs. The shift to a $12 residential monthly fixed charge from $9 will be a benefit amid flat customer demand in Kansas over the past three years (see Exhibit 2).

EXHIBIT 2

Demand for Electricity Has Been Stagnant in Kansas

Actual Consumption



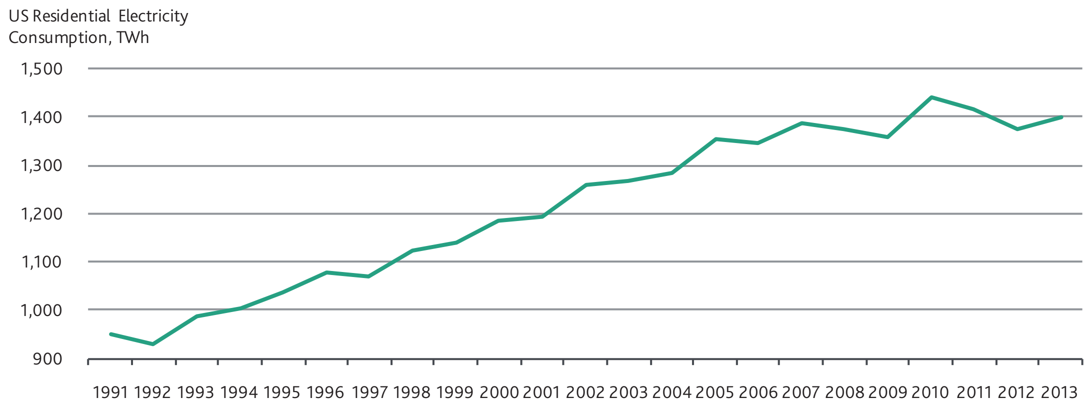
Notes: TWh stands for terawatt hour. 2013 US Energy Information Administration (EIA) data are through October 2013. Our estimates for November and December 2013 are based on historical trends.
Source: US Energy Information Administration

As demand for electricity wanes, rate structures that are tied more closely to volumetric charges than to fixed charges will threaten the gross profits of most electric and gas utilities. Exhibit 3 below shows the drop-off in US electricity demand since 2010, largely attributable to weather and slow economic growth as well as conservation and efficiency measures.

EXHIBIT 3

Demand for Electricity Is Slow to Rebound

Actual Consumption



Note: 2013 EIA data is through October 2013. Our estimates for November and December 2013 are based on historical trends.
Source: US Energy Information Administration

The industry's financial profile is becoming more predictable and steady because of these special recovery mechanisms that supplement cash recovery between general rate cases. As Exhibit 4 shows, the average ratio of cash flow from operations to gross profit had a standard deviation of 2.4% on a year-over-year basis between 2003 and 2008. This compares with a 1.1% standard deviation on average between 2009 and the third quarter of 2013, the latest data available, a period marked by a more pervasive use of cost-recovery mechanisms throughout the US.

EXHIBIT 4

Cost-Recovery Mechanisms Make Cash Flow More Predictable

Year	CFO / Gross Profit	Standard Deviation Rolling Two-Year Average	Average Standard Deviation
2003	30.9%		
2004	37.0%	4.3%	
2005	34.0%	2.1%	
2006	37.3%	2.4%	
2007	34.9%	1.7%	
2008	32.9%	1.4%	2.4%
2009	44.9%		
2010	42.5%	1.7%	
2011	44.8%	1.6%	
2012	44.3%	0.3%	
3Q13	43.0%	0.9%	1.1%

Note: The latest data available are for the third quarter of 2013.
Source: Moody's Investors Service

Cost-recovery improves, but not without exceptions

Most regulated electric and gas utilities in the US have shown evidence of improved regulatory relationships. Apart from Puget Sound's and Westar's cost-recovery improvements, we have seen regulatory improvement in Illinois and Connecticut, states in which the relationships between regulators and utilities have been somewhat contentious.

Stronger recovery mechanisms put in place late last year in both Illinois and Connecticut will make utility cash flow more predictable. For example, in Illinois, **Commonwealth Edison**'s (ComEd) cash flow to debt coverage will start improving in 2014, supported by the adoption of a version of formula ratemaking (i.e., the Energy Infrastructure Modernization Act, or "EIMA," which helps define various aspects of rate structure and cost-recovery in Illinois). The implementation of EIMA will make cost-recovery more tied to factors determined by a formula and less tied to rate-case negotiations (the results of which are less predictable).

Similarly, the Connecticut legislature in 2013 passed the Comprehensive Energy Strategy, which encourages the use of decoupling mechanisms and infrastructure replacement riders (i.e., the Distribution Integrity Management Program, or DIMP), while promoting growth of local distribution companies (LDCs) through customer conversions. These measures are subject to approval by the Public Utilities Regulatory Authority in rate-case proceedings, but were approved in **Connecticut Natural Gas**'s (CNG; A3 stable) December 2013 rate case. We expect decoupling, DIMP and conversion incentives to be applied to all LDCs in the state going forward.

These moves mark a turnaround in both states from past years, when regulatory support was lacking for certain cost-recovery provisions and when general rate case outcomes were deemed less than favorable from an investor perspective. For example, the Illinois legislature passed the EIMA in 2011, but the Illinois Commerce Commission did not fully implement it, initially, which made future cost-recovery for ComEd uncertain. Likewise, Connecticut LDCs had few tracking mechanisms and were exposed to declining customer usage in rate design. Now, through the adoption of EIMA in ComEd's rate structure (clarified by Senate Bill 9 in 2013) and CNG's implementation of decoupling and the DIMP, the financial profiles of both companies will likely improve.

These cost-recovery improvements are part of the broader trend we are seeing in the industry, but there are a few high-profile exceptions. Entergy Corp. (Baa3 stable), which has a history of contentious regulatory relationships in Arkansas and Texas, is one example.

Last year, Entergy Arkansas Inc. (Baa2 stable) put forth a nearly $145 million rate request but received about $81 million (the Arkansas Public Service Commission did allow a new cost-recovery rider for certain regional transmission expenses, however). Entergy Texas Inc. (Baa3 stable) requested about $53 million in rate increases for 2014, but the Texas Public Utilities Commission's (PUC) staff recommended a rate increase of a little more than $3 million. The PUC has not issued a final decision.

Another high-profile exception is Consolidated Edison of New York's (A2 stable) pending rate settlement, which calls for a two-year freeze on electric rates and a three-year rate freeze on gas and steam rates. Although the rate freeze would curb Consolidated Edison of New York's earnings, the settlement is credit neutral because of the provision for reasonable recovery of deferred storm costs related to Hurricane Sandy and other investments.

This year, one utility that might also buck the positive trend is Jersey Central Power & Light Co. (JCP&L; Baa2 negative). JCP&L has been the target of public criticism over its handling of outages related to Hurricane Sandy, besides allegations of over-earning. The staff of the New Jersey Board of Public Utilities has proposed that base rates be cut by $207 million (not considering recovery of storm costs, which will be addressed in a separate rate proceeding). This compares with the company's request for an increase of $11 million (again, not considering storm costs).

JCP&L's financial flexibility and financial metrics have already been weakened by costs associated with Hurricane Sandy, so a material rate reduction could hurt JCP&L's rating. If JCP&L can bring its ratio of cash flow to debt to at least 14% despite a rate decrease, then our rating outlook could stabilize. JCP&L had 12% cash flow to debt through the 12 months ended the third quarter of 2013.

More utilities are turning to financial engineering

Against a backdrop of stagnant demand, some utility holding companies are turning to forms of financial engineering, such as creating master limited partnerships (MLPs) and so-called yieldcos, to defend their historically high equity multiples. For the few companies that have proceeded with these strategies so far, the credit impact is neutral because the vehicles are small relative to the corporate sponsor's consolidated credit profile. But longer term, credit risks could increase if these companies eventually lose too much cash flow from their most stable assets and don't reduce debt enough to rebalance their capital structures.

We expect some more companies to go public with these financial-engineering vehicles this year. The joint venture among OGE, CenterPoint and ArcLight—the Enable Midstream Partners MLP—plans to complete an initial public offering in the first quarter. Dominion Resources Inc. (Baa2 stable) expects to publicly offer its MLP by mid-year. In addition, NextEra Energy Inc. (Baa1 stable) expects to make a decision whether to form a yieldco by then.

Meantime, several companies have pursued acquisitions outside of their core utility holdings and service territories, like MidAmerican Energy Holdings Co. (A3 stable), TECO Energy Inc. (Baa1 stable), and Avista Corp. (Baa1 stable). This trend is bound to continue as companies try to expand their regulated footprint and achieve regulatory diversity. We expect that most M&A activity in 2014 will be conservatively financed much like these transactions, which included equity financings.

EXHIBIT 5

Regulated Utilities: M&A Activity

	Acquirer			Acquiree				
Acquirer / Acquiree	Revenue	CFO	Debt	Revenue	CFO	Debt	Financing	Credit Implication
MidAmerican Energy Holdings Co. / NV Energy, Inc.	$12,373	$505	$4,255	$2,930	$794	$5,125	$5.6 billion in debt & equity	Positive; no ratings actions
TECO Energy, Inc. / New Mexico Gas Company	$2,851	$680	$3,156	$332	$65	$250	$950 million in debt, equity, & cash	Affirmed TECO Energy ratings
Avista Corp / Alaska Energy and Resources Company (AERC)	$1,581	$295	$1,739	$42	$20	$115	$170 million in equity	Neutral for Avista
Fortis, Inc. / UNS Energy Corporation	$3,654	$976	$5,783	$1,483	$400	$ 1,937	$4.3 billion in debt & equity	Slightly positive for UNS Energy Corporation; no ratings action

Notes: Financials are in millions, as of the 12 months ended September 30, 2013. AERC financials are based on Alaska Electric Light and Power Co. (AELP) 2012 FERC Form 1 data. Fortis and New Mexico Gas financials are as reported as of fiscal 2012. We expect TECO Energy will assume $200 million of debt already existing at New Mexico Gas Company. We expect Fortis to assume approximately $1.8 billion of debt already existing at UNS Energy Corporation. In addition, we expect Fortis to finance the UNS acquisition in a manner similar to historical precedent, with a balanced mix of debt and equity issued upstream from the utility (we expect Fortis to keep UNS's current capital structure in place).

Sources: Fortis Inc. Annual Report, AELP 2012 FERC Form 1, SNL, Moody's Financial Metrics

Appendix: Peer Group

Moody's Financial Metrics

	Entity Name	LT Rating	Outlook	CFO/Debt (3-Yr Avg) LTM 3Q11-LTM3Q13
Integrated	Alabama Power Company	A1	Stable	26%
	ALLETE, Inc.	A3	Stable	22%
	Appalachian Power Company	Baa1	Stable	17%
	Arizona Public Service Company	A3	Stable	28%
	Avista Corp.	Baa1	Stable	18%
	Black Hills Power, Inc.	A3	Stable	22%
	Cleco Power LLC	Baa1	Positive	19%
	Consumers Energy Company	(P)A3	Stable	27%
	Dayton Power & Light Company	Baa3	Stable	34%
	DTE Electric Company	A2	Stable	24%
	Duke Energy Carolinas, LLC	A1	Stable	23%
	Duke Energy Corporation	A3	Stable	15%
	Duke Energy Florida, Inc.	A3	Stable	21%
	Duke Energy Indiana, Inc.	A2	Stable	16%
	Duke Energy Kentucky, Inc.	Baa1	Stable	23%
	Duke Energy Ohio, Inc.	Baa1	Stable	25%
	Duke Energy Progress, Inc.	A1	Stable	23%
	El Paso Electric Company	Baa1	Stable	25%
	Empire District Electric Company (The)	Baa1	Stable	20%
	Entergy Arkansas, Inc.	Baa2	Stable	19%
	Entergy Louisiana, LLC	Baa1	Stable	17%
	Entergy Mississippi, Inc.	Baa2	Stable	16%
	Entergy New Orleans, Inc.	Ba2	Stable	20%
	Entergy Texas, Inc.	Baa3	Stable	14%
	Florida Power & Light Company	A1	Stable	32%
	Georgia Power Company	A3	Stable	25%
	Gulf Power Company	A2	Stable	26%
	Hawaiian Electric Company, Inc.	Baa1	Stable	17%
	Idaho Power Company	A3	Stable	16%
	Indiana Michigan Power Company	Baa1	Stable	21%
	Interstate Power and Light Company	A3	Stable	18%
	Kansas City Power & Light Company	Baa1	Stable	18%
	Kansas City Power & Light Company - Greater MO	Baa2	Stable	22%
	Madison Gas and Electric Company	A1	Stable	30%
	MidAmerican Energy Company	A1	Stable	24%
	Mississippi Power Company	Baa1	Stable	14%
	Nevada Power Company	Baa1	Stable	18%

	Entity Name	LT Rating	Outlook	CFO/Debt (3-Yr Avg) LTM 3Q11-LTM3Q13
	Northern States Power Company (Minnesota)	A2	Stable	25%
	Northern States Power Company (Wisconsin)	(P)A2	Stable	30%
	NorthWestern Corporation	A3	Stable	19%
	Ohio Power Company	Baa1	Stable	32%
	Oklahoma Gas & Electric Company	A1	Stable	27%
	Otter Tail Power Company	A3	Stable	24%
	Pacific Gas & Electric Company	A3	Stable	25%
	PacifiCorp	A3	Stable	23%
	Portland General Electric Company	A3	Stable	25%
	Public Service Co. of North Carolina, Inc.	A3	Stable	25%
	Public Service Company of Colorado	A3	Stable	23%
	Public Service Company of New Hampshire	Baa1	Stable	20%
	Public Service Company of New Mexico	Baa2	Positive	21%
	Public Service Company of Oklahoma	A3	Stable	27%
	Puget Sound Energy, Inc.	Baa1	Stable	21%
	San Diego Gas & Electric Company	A1	Stable	21%
	Sierra Pacific Power Company	Baa1	Stable	16%
	South Carolina Electric & Gas Company	Baa2	Stable	17%
	Southern California Edison Company	A2	Stable	30%
	Southern Indiana Gas & Electric Company	A2	Stable	28%
	Southwestern Electric Power Company	Baa2	Stable	18%
	Southwestern Public Service Company	Baa1	Stable	21%
	Tampa Electric Company	A2	Stable	32%
	Tucson Electric Power Company	Baa1	Stable	19%
	Union Electric Company	(P)Baa1	Stable	22%
	UNS Energy Corporation	Baa2	Stable	19%
	Virginia Electric and Power Company	A2	Stable	27%
	Westar Energy, Inc.	Baa1	Stable	16%
	Wisconsin Electric Power Company	A1	Stable	17%
	Wisconsin Power and Light Company	A1	Stable	31%
	Wisconsin Public Service Corporation	A1	Stable	26%
T&Ds	AEP Texas North Company	Baa1	Stable	22%
	Ameren Illinois Company	(P)Baa1	Stable	26%
	Atlantic City Electric Company	Baa2	Stable	15%
	Baltimore Gas and Electric Company	A3	Stable	19%
	CenterPoint Energy Houston Electric, LLC	A3	Stable	16%
	Central Hudson Gas & Electric Corporation	A2	Stable	29%
	Central Maine Power Company	A3	Stable	27%
	Cleveland Electric Illuminating Company (The)	Baa3	Stable	15%
	Commonwealth Edison Company	Baa1	Stable	21%

	Entity Name	LT Rating	Outlook	CFO/Debt (3-Yr Avg) LTM 3Q11-LTM3Q13
	Connecticut Light and Power Company	Baa1	Stable	13%
	Consolidated Edison Company of New York, Inc.	A2	Stable	23%
	Delmarva Power & Light Company	Baa1	Stable	17%
	Duquesne Light Company	A3	Stable	26%
	Jersey Central Power & Light Company	Baa2	Negative	18%
	New York State Electric and Gas Corporation	A3	Stable	26%
	Niagara Mohawk Power Corporation	A3	Stable	23%
	NSTAR Electric Company	A2	Stable	29%
	Ohio Edison Company	Baa2	Stable	25%
	Oncor Electric Delivery Company LLC	Baa3	Stable	20%
	Orange and Rockland Utilities, Inc.	A3	Stable	21%
	PECO Energy Company	A2	Stable	30%
	Pennsylvania Electric Company	Baa2	Stable	18%
	Pennsylvania Power Company	Baa2	Stable	37%
	Potomac Edison Company (The)	Baa3	Stable	19%
	Potomac Electric Power Company	Baa1	Stable	16%
	Public Service Electric and Gas Company	A2	Stable	25%
	Rochester Gas & Electric Corporation	Baa1	Stable	26%
	Texas-New Mexico Power Company	Baa1	Positive	26%
	Toledo Edison Company	Baa3	Stable	8%
	United Illuminating Company	Baa1	Stable	20%
	West Penn Power Company	Baa2	Stable	25%
	Western Massachusetts Electric Company	A3	Stable	23%
LDCs	Atlanta Gas Light Company	A2	Stable	30%
	Atmos Energy Corporation	A2	Stable	23%
	Berkshire Gas Company	Baa1	Stable	29%
	Connecticut Natural Gas Corporation	A3	Stable	26%
	DTE Gas Company	Aa3	Stable	24%
	Indiana Gas Company, Inc.	A2	Stable	27%
	Laclede Gas Company	(P)A3	Stable	26%
	New Jersey Natural Gas Company	(P)Aa2	Stable	19%
	Northern Illinois Gas Company	A2	Stable	49%
	Northwest Natural Gas Company	(P)A3	Stable	20%
	Piedmont Natural Gas Company, Inc.	A2	Stable	23%
	Questar Gas Company	A2	Stable	25%
	SEMCO Energy, Inc.	Baa1	Stable	15%
	SourceGas LLC	Baa2	Stable	14%
	South Jersey Gas Company	A2	Stable	21%
	Southern California Gas Company	A1	Stable	32%
	Southern Connecticut Gas Company	Baa1	Stable	22%

Entity Name	LT Rating	Outlook	CFO/Debt (3-Yr Avg) LTM 3Q11-LTM3Q13
UGI Utilities, Inc.	A2	Stable	27%
UNS Gas, Inc.	Baa1	Stable	27%
Washington Gas Light Company	A1	Stable	35%
Wisconsin Gas LLC	A1	Stable	28%
Yankee Gas Services Company	Baa1	Stable	18%

Source: Moody's Investors Service

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Key Credit Factors For The Regulated Utilities Industry

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Table Of Contents

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Table Of Contents (cont.)

Criteria | Corporates | Utilities:

Key Credit Factors For The Regulated Utilities Industry

*(**Editor's Note:** This criteria article supersedes "Key Credit Factors: Business And Financial Risks In The Investor-Owned Utilities Industry," published Nov. 26, 2008, "Assessing U.S. Utility Regulatory Environments," Nov. 7, 2007, and "Revised Methodology For Adjusting Amounts Reported By U.K. GAAP Water Companies For Infrastructure Renewals Accounting," Jan. 27, 2010.)*

1. Standard & Poor's Ratings Services is refining and adapting its methodology and assumptions for its Key Credit Factors: Criteria For Regulated Utilities. We are publishing these criteria in conjunction with our corporate criteria (see "Corporate Methodology, published Nov. 19, 2013). This article relates to our criteria article, "Principles Of Credit Ratings," Feb. 16, 2011.

2. This criteria article supersedes "Key Credit Factors: Business And Financial Risks In The Investor-Owned Utilities Industry," Nov. 26, 2008, "Criteria: Assessing U.S. Utility Regulatory Environments," Nov. 7, 2007, and "Revised Methodology For Adjusting Amounts Reported By U.K. GAAP Water Companies For Infrastructure Renewals Accounting," Jan. 27, 2010.

SCOPE OF THE CRITERIA

3. These criteria apply to entities where regulated utilities represent a material part of their business, other than U.S. public power, water, sewer, gas, and electric cooperative utilities that are owned by federal, state, or local governmental bodies or by ratepayers. A regulated utility is defined as a corporation that offers an essential or near-essential infrastructure product, commodity, or service with little or no practical substitute (mainly electricity, water, and gas), a business model that is shielded from competition (naturally, by law, shadow regulation, or by government policies and oversight), and is subject to comprehensive regulation by a regulatory body or implicit oversight of its rates (sometimes referred to as tariffs), service quality, and terms of service. The regulators base the rates that they set on some form of cost recovery, including an economic return on assets, rather than relying on a market price. The regulated operations can range from individual parts of the utility value chain (water, gas, and electricity networks or "grids," electricity generation, retail operations, etc.) to the entire integrated chain, from procurement to sales to the end customer. In some jurisdictions, our view of government support can also affect the final rating outcome, as per our government-related entity criteria (see "General Criteria: Rating Government-Related Entities: Methodology and Assumptions," Dec. 9, 2010).

SUMMARY OF THE CRITERIA

4. Standard & Poor's is updating its criteria for analyzing regulated utilities, applying its corporate criteria. The criteria for evaluating the competitive position of regulated utilities amend and partially supersede the "Competitive Position" section of the corporate criteria when evaluating these entities. The criteria for determining the cash flow leverage

assessment partially supersede the "Cash Flow/Leverage" section of the corporate criteria for the purpose of evaluating regulated utilities. The section on liquidity for regulated utilities partially amends existing criteria. All other sections of the corporate criteria apply to the analysis of regulated utilities.

IMPACT ON OUTSTANDING RATINGS

5. These criteria could affect the issuer credit ratings of about 5% of regulated utilities globally due primarily to the introduction of new financial benchmarks in the corporate criteria. Almost all ratings changes are expected to be no more than one notch, and most are expected to be in an upward direction.

EFFECTIVE DATE AND TRANSITION

6. These criteria are effective immediately on the date of publication.

METHODOLOGY

Part I--Business Risk Analysis

Industry risk

7. Within the framework of Standard & Poor's general criteria for assessing industry risk, we view regulated utilities as a "very low risk" industry (category '1'). We derive this assessment from our view of the segment's low risk ('2') cyclicality and very low risk ('1') competitive risk and growth assessment.

8. In our view, demand for regulated utility services typically exhibits low cyclicality, being a function of such key drivers as employment growth, household formation, and general economic trends. Pricing is non-cyclical, since it is usually based in some form on the cost of providing service.

Cyclicality

9. We assess cyclicality for regulated utilities as low risk ('2'). Utilities typically offer products and services that are essential and not easily replaceable. Based on our analysis of global Compustat data, utilities had an average peak-to-trough (PTT) decline in revenues of about 6% during recessionary periods since 1952. Over the same period, utilities had an average PTT decline in EBITDA margin of about 5% during recessionary periods, with PTT EBITDA margin declines less severe in more recent periods. The PTT drop in profitability that occurred in the most recent recession (2007-2009) was less than the long-term average.

10. With an average drop in revenues of 6% and an average profitability decline of 5%, utilities' cyclicality assessment calibrates to low risk ('2'). We generally consider that the higher the level of profitability cyclicality in an industry, the higher the credit risk of entities operating in that industry. However, the overall effect of cyclicality on an industry's risk profile may be mitigated or exacerbated by an industry's competitive and growth environment.

Competitive risk and growth

11. We view regulated utilities as warranting a very low risk ('1') competitive risk and growth assessment. For competitive risk and growth, we assess four sub-factors as low, medium, or high risk. These sub-factors are:

- Effectiveness of industry barriers to entry;
- Level and trend of industry profit margins;
- Risk of secular change and substitution by products, services, and technologies; and
- Risk in growth trends.

Effectiveness of barriers to entry--low risk

12. Barriers to entry are high. Utilities are normally shielded from direct competition. Utility services are commonly naturally monopolistic (they are not efficiently delivered through competitive channels and often require access to public thoroughfares for distribution), and so regulated utilities are granted an exclusive franchise, license, or concession to serve a specified territory in exchange for accepting an obligation to serve all customers in that area and the regulation of its rates and operations.

Level and trend of industry profit margins--low risk

13. Demand is sometimes and in some places subject to a moderate degree of seasonality, and weather conditions can significantly affect sales levels at times over the short term. However, those factors even out over time, and there is little pressure on margins if a utility can pass higher costs along to customers via higher rates.

Risk of secular change and substitution of products, services, and technologies--low risk

14. Utility products and services are not overly subject to substitution. Where substitution is possible, as in the case of natural gas, consumer behavior is usually stable and there is not a lot of switching to other fuels. Where switching does occur, cost allocation and rate design practices in the regulatory process can often mitigate this risk so that utility profitability is relatively indifferent to the substitutions.

Risk in industry growth trends--low risk

15. As noted above, regulated utilities are not highly cyclical. However, the industry is often well established and, in our view, long-range demographic trends support steady demand for essential utility services over the long term. As a result, we would expect revenue growth to generally match GDP when economic growth is positive.

B. Country risk

16. In assessing "country risk" for a regulated utility, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology").

C. Competitive position

17. In the corporate criteria, competitive position is assessed as ('1') excellent, ('2') strong, ('3') satisfactory, ('4') fair, ('5') weak, or ('6') vulnerable.

18. The analysis of competitive position includes a review of:

- Competitive advantage,
- Scale, scope, and diversity,
- Operating efficiency, and
- Profitability.

19. In the corporate criteria we assess the strength of each of the first three components. Each component is assessed as either: (1) strong, (2) strong/adequate, (3) adequate, (4) adequate/weak, or (5) weak. After assessing these components, we determine the preliminary competitive position assessment by ascribing a specific weight to each component. The applicable weightings will depend on the company's Competitive Position Group Profile. The group profile for regulated utilities is "National Industries & Utilities," with a weighting of the three components as follows: competitive advantage (60%), scale, scope, and diversity (20%), and operating efficiency (20%). Profitability is assessed by combining two sub-components: level of profitability and the volatility of profitability.

20. "Competitive advantage" cannot be measured with the same sub-factors as competitive firms because utilities are not primarily subject to influence of market forces. Therefore, these criteria supersede the "competitive advantage" section of the corporate criteria. We analyze instead a utility's "regulatory advantage" (section 1 below).

Assessing regulatory advantage

21. The regulatory framework/regime's influence is of critical importance when assessing regulated utilities' credit risk because it defines the environment in which a utility operates and has a significant bearing on a utility's financial performance.

22. We base our assessment of the regulatory framework's relative credit supportiveness on our view of how regulatory stability, efficiency of tariff setting procedures, financial stability, and regulatory independence protect a utility's credit quality and its ability to recover its costs and earn a timely return. Our view of these four pillars is the foundation of a utility's regulatory support. We then assess the utility's business strategy, in particular its regulatory strategy and its ability to manage the tariff-setting process, to arrive at a final regulatory advantage assessment.

23. When assessing regulatory advantage, we first consider four pillars and sub-factors that we believe are key for a utility to recover all its costs, on time and in full, and earn a return on its capital employed:

24. Regulatory stability:

- Transparency of the key components of the rate setting and how these are assessed
- Predictability that lowers uncertainty for the utility and its stakeholders
- Consistency in the regulatory framework over time

25. Tariff-setting procedures and design:

- Recoverability of all operating and capital costs in full
- Balance of the interests and concerns of all stakeholders affected
- Incentives that are achievable and contained

26. Financial stability:

- Timeliness of cost recovery to avoid cash flow volatility
- Flexibility to allow for recovery of unexpected costs if they arise
- Attractiveness of the framework to attract long-term capital
- Capital support during construction to alleviate funding and cash flow pressure during periods of heavy investments

27. Regulatory independence and insulation:

- Market framework and energy policies that support long-term financeability of the utilities and that is clearly enshrined in law and separates the regulator's powers
- Risks of political intervention is absent so that the regulator can efficiently protect the utility's credit profile even during a stressful event

28. We have summarized the key characteristics of the assessments for regulatory advantage in table 1.

Table 1

Preliminary Regulatory Advantage Assessment

Qualifier	What it means	Guidance
Strong	The utility has a major regulatory advantage due to one or a combination of factors that support cost recovery and a return on capital combined with lower than average volatility of earnings and cash flows.	The utility operates in a regulatory climate that is transparent, predictable, and consistent from a credit perspective.
	There are strong prospects that the utility can sustain this advantage over the long term.	The utility can fully and timely recover all its fixed and variable operating costs, investments and capital costs (depreciation and a reasonable return on the asset base).
	This should enable the utility to withstand economic downturns and political risks better than other utilities.	The tariff set may include a pass-through mechanism for major expenses such as commodity costs, or a higher return on new assets, effectively shielding the utility from volume and input cost risks.
		Any incentives in the regulatory scheme are contained and symmetrical.
		The tariff set includes mechanisms allowing for a tariff adjustment for the timely recovery of volatile or unexpected operating and capital costs.
		There is a track record of earning a stable, compensatory rate of return in cash through various economic and political cycles and a projected ability to maintain that record.
		There is support of cash flows during construction of large projects, and pre-approval of capital investment programs and large projects lowers the risk of subsequent disallowances of capital costs.
		The utility operates under a regulatory system that is sufficiently insulated from political intervention to efficiently protect the utility's credit risk profile even during stressful events.
Adequate	The utility has some regulatory advantages and protection, but not to the extent that it leads to a superior business model or durable benefit.	It operates in a regulatory environment that is less transparent, less predictable, and less consistent from a credit perspective.
	The utility has some but not all drivers of well-managed regulatory risk. Certain regulatory factors support the business's long-term stability and viability but could result in periods of below-average levels of profitability and greater profit volatility. However, overall these regulatory drivers are partially offset by the utility's disadvantages or lack of sustainability of other factors.	The utility is exposed to delays or is not, with sufficient certainty, able to recover all of its fixed and variable operating costs, investments. and capital costs (depreciation and a reasonable return on the asset base) within a reasonable time.
		Incentive ratemaking practices are asymmetrical and material, and could detract from credit quality.
		The utility is exposed to the risk that it doesn't recover unexpected or volatile costs in a full or less than timely manner due to lack of flexible reopeners or annual revenue adjustments.
		There is an uneven track record of earning a compensatory rate of return in cash through various economic and political cycles and a projected ability to maintain that record.

Table 1

Preliminary Regulatory Advantage Assessment (cont.)		
		There is little or no support of cash flows during construction, and investment decisions on large projects (and therefore the risk of subsequent disallowances of capital costs) rest mostly with the utility.
		The utility operates under a regulatory system that is not sufficiently insulated from political intervention and is sometimes subject to overt political influence.
Weak	The utility suffers from a complete breakdown of regulatory protection that places the utility at a significant disadvantage.	The utility operates in an opaque regulatory climate that lacks transparency, predictability, and consistency.
	The utility's regulatory risk is such that the long-term cost recovery and investment return is highly uncertain and materially delayed, leading to volatile or weak cash flows. There is the potential for material stranded assets with no prospect of recovery.	The utility cannot fully and/or timely recover its fixed and variable operating costs, investments, and capital costs (depreciation and a reasonable return on the asset base).
		There is a track record of earning minimal or negative rates of return in cash through various economic and political cycles and a projected inability to improve that record sustainably.
		The utility must make significant capital commitments with no solid legal basis for the full recovery of capital costs.
		Ratemaking practices actively harm credit quality.
		The utility is regularly subject to overt political influence.

29. After determining the preliminary regulatory advantage assessment, we then assess the utility's business strategy. Most importantly, this factor addresses the effectiveness of a utility's management of the regulatory risk in the jurisdiction(s) where it operates. In certain jurisdictions, a utility's regulatory strategy and its ability to manage the tariff-setting process effectively so that revenues change with costs can be a compelling regulatory risk factor. A utility's approach and strategies surrounding regulatory matters can create a durable "competitive advantage" that differentiates it from peers, especially if the risk of political intervention is high. The assessment of a utility's business strategy is informed by historical performance and its forward-looking business objectives. We evaluate these objectives in the context of industry dynamics and the regulatory climate in which the utility operates, as evaluated through the factors cited in paragraphs 24-27.

30. We modify the preliminary regulatory advantage assessment to reflect this influence positively or negatively. Where business strategy has limited effect relative to peers, we view the implications as neutral and make no adjustment. A positive assessment improves the preliminary regulatory advantage assessment by one category and indicates that management's business strategy is expected to bolster its regulatory advantage through favorable commission rulings beyond what is typical for a utility in that jurisdiction. Conversely, where management's strategy or businesses decisions result in adverse regulatory outcomes relative to peers, such as failure to achieve typical cost recovery or allowed returns, we adjust the preliminary regulatory advantage assessment one category worse. In extreme cases of poor strategic execution, the preliminary regulatory advantage assessment is adjusted by two categories worse (when possible; see table 2) to reflect management decisions that are likely to result in a significantly adverse regulatory outcome relative to peers.

Table 2

Determining The Final Regulatory Advantage Assessment

	--Strategy modifier--			
Preliminary regulatory advantage score	**Positive**	**Neutral**	**Negative**	**Very negative**
Strong	Strong	Strong	Strong/Adequate	Adequate
Strong/Adequate	Strong	Strong/Adequate	Adequate	Adequate/Weak
Adequate	Strong/Adequate	Adequate	Adequate/Weak	Weak
Adequate/Weak	Adequate	Adequate/Weak	Weak	Weak
Weak	Adequate/Weak	Weak	Weak	Weak

Scale, scope, and diversity

31. We consider the key factors for this component of competitive position to be primarily operational scale and diversity of the geographic, economic, and regulatory foot prints. We focus on a utility's markets, service territories, and diversity and the extent that these attributes can contribute to cash flow stability while dampening the effect of economic and market threats.

32. A utility that warrants a Strong or Strong/Adequate assessment has scale, scope, and diversity that support the stability of its revenues and profits by limiting its vulnerability to most combinations of adverse factors, events, or trends. The utility's significant advantages enable it to withstand economic, regional, competitive, and technological threats better than its peers. It typically is characterized by a combination of the following factors:

- A large and diverse customer base with no meaningful customer concentration risk, where residential and small to medium commercial customers typically provide most operating income.
- The utility's range of service territories and regulatory jurisdictions is better than others in the sector.
- Exposure to multiple regulatory authorities where we assess preliminary regulatory advantage to be at least Adequate. In the case of exposure to a single regulatory regime, the regulatory advantage assessment is either Strong or Strong/Adequate.
- No meaningful exposure to a single or few assets or suppliers that could hurt operations or could not easily be replaced.

33. A utility that warrants a Weak or Weak/Adequate assessment lacks scale, scope, and diversity such that it compromises the stability and sustainability of its revenues and profits. The utility's vulnerability to, or reliance on, various elements of this sub-factor is such that it is less likely than its peers to withstand economic, competitive, or technological threats. It typically is characterized by a combination of the following factors:

- A small customer base, especially if burdened by customer and/or industry concentration combined with little economic diversity and average to below-average economic prospects;
- Exposure to a single service territory and a regulatory authority with a preliminary regulatory advantage assessment of Adequate or Adequate/Weak; or
- Dependence on a single supplier or asset that cannot easily be replaced and which hurts the utility's operations.

34. We generally believe a larger service territory with a diverse customer base and average to above-average economic growth prospects provides a utility with cushion and flexibility in the recovery of operating costs and ongoing investment (including replacement and growth capital spending), as well as lessening the effect of external shocks (i.e.,

extreme local weather) since the incremental effect on each customer declines as the scale increases.

35. We consider residential and small commercial customers as having more stable usage patterns and being less exposed to periodic economic weakness, even after accounting for some weather-driven usage variability. Significant industrial exposure along with a local economy that largely depends on one or few cyclical industries potentially contributes to the cyclicality of a utility's load and financial performance, magnifying the effect of an economic downturn.

36. A utility's cash flow generation and stability can benefit from operating in multiple geographic regions that exhibit average to better than average levels of wealth, employment, and growth that underpin the local economy and support long-term growth. Where operations are in a single geographic region, the risk can be ameliorated if the region is sufficiently large, demonstrates economic diversity, and has at least average demographic characteristics.

37. The detriment of operating in a single large geographic area is subject to the strength of regulatory assessment. Where a utility operates in a single large geographic area and has a strong regulatory assessment, the benefit of diversity can be incremental.

Operating efficiency

38. We consider the key factors for this component of competitive position to be:

- Compliance with the terms of its operating license, including safety, reliability, and environmental standards;
- Cost management; and
- Capital spending: scale, scope, and management.

39. Relative to peers, we analyze how successful a utility management achieves the above factors within the levels allowed by the regulator in a manner that promotes cash flow stability. We consider how management of these factors reduces the prospect of penalties for noncompliance, operating costs being greater than allowed, and capital projects running over budget and time, which could hurt full cost recovery.

40. The relative importance of the above three factors, particularly cost and capital spending management, is determined by the type of regulation under which the utility operates. Utilities operating under robust "cost plus" regimes tend to be more insulated given the high degree of confidence costs will invariably be passed through to customers. Utilities operating under incentive-based regimes are likely to be more sensitive to achieving regulatory standards. This is particularly so in the regulatory regimes that involve active consultation between regulator and utility and market testing as opposed to just handing down an outcome on a more arbitrary basis.

41. In some jurisdictions, the absolute performance standards are less relevant than how the utility performs against the regulator's performance benchmarks. It is this performance that will drive any penalties or incentive payments and can be a determinant of the utilities' credibility on operating and asset-management plans with its regulator.

42. Therefore, we consider that utilities that perform these functions well are more likely to consistently achieve determinations that maximize the likelihood of cost recovery and full inclusion of capital spending in their asset bases. Where regulatory resets are more at the discretion of the utility, effective cost management, including of labor, may allow for more control over the timing and magnitude of rate filings to maximize the chances of a constructive outcome such as full operational and capital cost recovery while protecting against reputational risks.

43. A regulated utility that warrants a Strong or Strong/Adequate assessment for operating efficiency relative to peers generates revenues and profits through minimizing costs, increasing efficiencies, and asset utilization. It typically is characterized by a combination of the following:

- High safety record;
- Service reliability is strong, with a track record of meeting operating performance requirements of stakeholders, including those of regulators. Moreover, the utility's asset profile (including age and technology) is such that we have confidence that it could sustain favorable performance against targets;
- Where applicable, the utility is well-placed to meet current and potential future environmental standards;
- Management maintains very good cost control. Utilities with the highest assessment for operating efficiency have shown an ability to manage both their fixed and variable costs in line with regulatory expectations (including labor and working capital management being in line with regulator's allowed collection cycles); or
- There is a history of a high level of project management execution in capital spending programs, including large one-time projects, almost invariably within regulatory allowances for timing and budget.

44. A regulated utility that warrants an Adequate assessment for operating efficiency relative to peers has a combination of cost position and efficiency factors that support profit sustainability combined with average volatility. Its cost structure is similar to its peers. It typically is characterized by a combination of the following factors:

- High safety performance;
- Service reliability is satisfactory with a track record of mostly meeting operating performance requirements of stakeholders, including those of regulators. We have confidence that a favorable performance against targets can be mostly sustained;
- Where applicable, the utility may be challenged to comply with current and future environmental standards that could increase in the medium term;
- Management maintains adequate cost control. Utilities that we assess as having adequate operating efficiency mostly manage their fixed and variable costs in line with regulatory expectations (including labor and working capital management being mostly in line with regulator's allowed collection cycles); or
- There is a history of adequate project management skills in capital spending programs within regulatory allowances for timing and budget.

45. A regulated utility that warrants a weak or weak/adequate assessment for operating efficiency relative to peers has a combination of cost position and efficiency factors that fail to support profit sustainability combined with below-average volatility. Its cost structure is worse than its peers. It typically is characterized by a combination of the following:

- Poor safety performance;
- Service reliability has been sporadic or non-existent with a track record of not meeting operating performance requirements of stakeholders, including those of regulators. We do not believe the utility can consistently meet performance targets without additional capital spending;
- Where applicable, the utility is challenged to comply with current environmental standards and is highly vulnerable to more onerous standards;
- Management typically exceeds operating costs authorized by regulators;
- Inconsistent project management skills as evidenced by cost overruns and delays including for maintenance capital spending; or
- The capital spending program is large and complex and falls into the weak or weak/adequate assessment, even if

operating efficiency is generally otherwise considered adequate.

Profitability

46. A utility with above-average profitability would, relative to its peers, generally earn a rate of return at or above what regulators authorize and have minimal exposure to earnings volatility from affiliated unregulated business activities or market-sensitive regulated operations. Conversely, a utility with below-average profitability would generally earn rates of return well below the authorized return relative to its peers or have significant exposure to earnings volatility from affiliated unregulated business activities or market-sensitive regulated operations.

47. The profitability assessment consists of "level of profitability" and "volatility of profitability."

Level of profitability

48. Key measures of general profitability for regulated utilities commonly include ratios, which we compare both with those of peers and those of companies in other industries to reflect different countries' regulatory frameworks and business environments:

- EBITDA margin,
- Return on capital (ROC), and
- Return on equity (ROE).

49. In many cases, EBITDA as a percentage of sales (i.e., EBITDA margin) is a key indicator of profitability. This is because the book value of capital does not always reflect true earning potential, for example when governments privatize or restructure incumbent state-owned utilities. Regulatory capital values can vary with those of reported capital because regulatory capital values are not inflation-indexed and could be subject to different assumptions concerning depreciation. In general, a country's inflation rate or required rate of return on equity investment is closely linked to a utility company's profitability. We do not adjust our analysis for these factors, because we can make our assessment through a peer comparison.

50. For regulated utilities subject to full cost-of-service regulation and return-on-investment requirements, we normally measure profitability using ROE, the ratio of net income available for common stockholders to average common equity. When setting rates, the regulator ultimately bases its decision on an authorized ROE. However, different factors such as variances in costs and usage may influence the return a utility is actually able to earn, and consequently our analysis of profitability for cost-of-service-based utilities centers on the utility's ability to consistently earn the authorized ROE.

51. We will use return on capital when pass-through costs distort profit margins--for instance congestion revenues or collection of third-party revenues. This is also the case when the utility uses accelerated depreciation of assets, which in our view might not be sustainable in the long run.

Volatility of profitability

52. We may observe a clear difference between the volatility of actual profitability and the volatility of underlying regulatory profitability. In these cases, we could use the regulatory accounts as a proxy to judge the stability of earnings.

53. We use actual returns to calculate the standard error of regression for regulated utility issuers (only if there are at least

seven years of historical annual data to ensure meaningful results). If we believe recurring mergers and acquisitions or currency fluctuations affect the results, we may make adjustments.

Part II--Financial Risk Analysis

D. Accounting

54. Our analysis of a company's financial statements begins with a review of the accounting to determine whether the statements accurately measure a company's performance and position relative to its peers and the larger universe of corporate entities. To allow for globally consistent and comparable financial analyses, our rating analysis may include quantitative adjustments to a company's reported results. These adjustments also align a company's reported figures with our view of underlying economic conditions and give us a more accurate portrayal of a company's ongoing business. We discuss adjustments that pertain broadly to all corporate sectors, including this sector, in "Corporate Methodology: Ratios And Adjustments." Accounting characteristics and analytical adjustments unique to this sector are discussed below.

Accounting characteristics

55. Some important accounting practices for utilities include:

- For integrated electric utilities that meet native load obligations in part with third-party power contracts, we use our purchased power methodology to adjust measures for the debt-like obligation such contracts represent (see below).
- Due to distortions in leverage measures from the substantial seasonal working-capital requirements of natural gas distribution utilities, we adjust inventory and debt balances by netting the value of inventory against outstanding short-term borrowings. This adjustment provides an accurate view of the company's balance sheet by reducing seasonal debt balances when we see a very high certainty of near-term cost recovery (see below).
- We deconsolidate securitized debt (and associated revenues and expenses) that has been accorded specialized recovery provisions (see below).
- For water utilities that report under U.K. GAAP, we adjust ratios for infrastructure renewals accounting, which permits water companies to capitalize the maintenance spending on their infrastructure assets (see below). The adjustments aim to make those water companies that report under U.K. GAAP more comparable to those that report under accounting regimes that do not permit infrastructure renewals accounting.

56. In the U.S. and selectively in other regions, utilities employ "regulatory accounting," which permits a rate-regulated company to defer some revenues and expenses to match the timing of the recognition of those items in rates as determined by regulators. A utility subject to regulatory accounting will therefore have assets and liabilities on its books that an unregulated corporation, or even regulated utilities in many other global regions, cannot record. We do not adjust GAAP earnings or balance-sheet figures to remove the effects of regulatory accounting. However, as more countries adopt International Financial Reporting Standards (IFRS), the use of regulatory accounting will become more scarce. IFRS does not currently provide for any recognition of the effects of rate regulation for financial reporting purposes, but it is considering the use of regulatory accounting. We do not anticipate altering our fundamental financial analysis of utilities because of the use or non-use of regulatory accounting. We will continue to analyze the effects of regulatory actions on a utility's financial health.

Purchased power adjustment

57. We view long-term purchased power agreements (PPA) as creating fixed, debt-like financial obligations that represent substitutes for debt-financed capital investments in generation capacity. By adjusting financial measures to incorporate PPA fixed obligations, we achieve greater comparability of utilities that finance and build generation capacity and those that purchase capacity to satisfy new load. PPAs do benefit utilities by shifting various risks to the electricity generators, such as construction risk and most of the operating risk. The principal risk borne by a utility that relies on PPAs is recovering the costs of the financial obligation in rates. (See "Standard & Poor's Methodology For Imputing Debt for U.S. Utilities' Power Purchase Agreements," May 7, 2007, for more background and information on the adjustment.)

58. We calculate the present value (PV) of the future stream of capacity payments under the contracts as reported in the financial statement footnotes or as supplied directly by the company. The discount rate used is the same as the one used in the operating lease adjustment, i.e., 7%. For U.S. companies, notes to the financial statements enumerate capacity payments for the coming five years, and a thereafter period. Company forecasts show the detail underlying the thereafter amount, or we divide the amount reported as thereafter by the average of the capacity payments in the preceding five years to get an approximation of annual payments after year five.

59. We also consider new contracts that will start during the forecast period. The company provides us the information regarding these contracts. If these contracts represent extensions of existing PPAs, they are immediately included in the PV calculation. However, a contract sometimes is executed in anticipation of incremental future needs, so the energy will not flow until some later period and there are no interim payments. In these instances, we incorporate that contract in our projections, starting in the year that energy deliveries begin under the contract. The projected PPA debt is included in projected ratios as a current rating factor, even though it is not included in the current-year ratio calculations.

60. The PV is adjusted to reflect regulatory or legislative cost-recovery mechanisms when present. Where there is no explicit regulatory or legislative recovery of PPA costs, as in most European countries, the PV may be adjusted for other mitigating factors that reduce the risk of the PPAs to the utility, such as a limited economic importance of the PPAs to the utility's overall portfolio.The adjustment reduces the debt-equivalent amount by multiplying the PV by a specific risk factor.

61. Risk factors based on regulatory or legislative cost recovery typically range between 0% and 50%, but can be as high as 100%. A 100% risk factor would signify that substantially all risk related to contractual obligations rests on the company, with no regulatory or legislative support. A 0% risk factor indicates that the burden of the contractual payments rests solely with ratepayers, as when the utility merely acts as a conduit for the delivery of a third party's electricity. These utilities are barred from developing new generation assets, and the power supplied to their customers is sourced through a state auction or third parties that act as intermediaries between retail customers and electricity suppliers. We employ a 50% risk factor in cases where regulators use base rates for the recovery of the fixed PPA costs. If a regulator has established a separate adjustment mechanism for recovery of all prudent PPA costs, a risk factor of 25% is employed. In certain jurisdictions, true-up mechanisms are more favorable and frequent than the review of base rates, but still do not amount to pure fuel adjustment clauses. Such mechanisms may be triggered by financial thresholds or passage of prescribed periods of time. In these instances, a risk factor between 25% and 50% is

employed. Specialized, legislatively created cost-recovery mechanisms may lead to risk factors between 0% and 15%, depending on the legislative provisions for cost recovery and the supply function borne by the utility. Legislative guarantees of complete and timely recovery of costs are particularly important to achieving the lowest risk factors. We also exclude short-term PPAs where they serve merely as gap fillers, pending either the construction of new capacity or the execution of long-term PPAs.

62. Where there is no explicit regulatory or legislative recovery of PPA costs, the risk factor is generally 100%. We may use a lower risk factor if mitigating factors reduce the risk of the PPAs on the utility. Mitigating factors include a long position in owned generation capacity relative to the utility's customer supply needs that limits the importance of the PPAs to the utility or the ability to resell power in a highly liquid market at minimal loss. A utility with surplus owned generation capacity would be assigned a risk factor of less than 100%, generally 50% or lower, because we would assess its reliance on PPAs as limited. For fixed capacity payments under PPAs related to renewable power, we use a risk factor of less than 100% if the utility benefits from government subsidies. The risk factor reflects the degree of regulatory recovery through the government subsidy.

63. Given the long-term mandate of electric utilities to meet their customers' demand for electricity, and also to enable comparison of companies with different contract lengths, we may use an evergreening methodology. Evergreen treatment extends the duration of short- and intermediate-term contracts to a common length of about 12 years. To quantify the cost of the extended capacity, we use empirical data regarding the cost of developing new peaking capacity, incorporating regional differences. The cost of new capacity is translated into a dollars-per-kilowatt-year figure using a proxy weighted-average cost of capital and a proxy capital recovery period.

64. Some PPAs are treated as operating leases for accounting purposes--based on the tenor of the PPA or the residual value of the asset on the PPA's expiration. We accord PPA treatment to those obligations, in lieu of lease treatment; rather, the PV of the stream of capacity payments associated with these PPAs is reduced to reflect the applicable risk factor.

65. Long-term transmission contracts can also substitute for new generation, and, accordingly, may fall under our PPA methodology. We sometimes view these types of transmission arrangements as extensions of the power plants to which they are connected or the markets that they serve. Accordingly, we impute debt for the fixed costs associated with such transmission contracts.

66. Adjustment procedures:

- Data requirements:
- Future capacity payments obtained from the financial statement footnotes or from management.
- Discount rate: 7%.
- Analytically determined risk factor.

- Calculations:
- Balance sheet debt is increased by the PV of the stream of capacity payments multiplied by the risk factor.
- Equity is not adjusted because the recharacterization of the PPA implies the creation of an asset, which offsets the debt.
- Property, plant, and equipment and total assets are increased for the implied creation of an asset equivalent to the

debt.

- An implied interest expense for the imputed debt is determined by multiplying the discount rate by the amount of imputed debt (or average PPA imputed debt, if there is fluctuation of the level), and is added to interest expense.
- We impute a depreciation component to PPAs. The depreciation component is determined by multiplying the relevant year's capacity payment by the risk factor and then subtracting the implied PPA-related interest for that year. Accordingly, the impact of PPAs on cash flow measures is tempered.
- The cost amount attributed to depreciation is reclassified as capital spending, thereby increasing operating cash flow and funds from operations (FFO).
- Some PPA contracts refer only to a single, all-in energy price. We identify an implied capacity price within such an all-in energy price, to determine an implied capacity payment associated with the PPA. This implied capacity payment is expressed in dollars per kilowatt-year, multiplied by the number of kilowatts under contract. (In cases that exhibit markedly different capacity factors, such as wind power, the relation of capacity payment to the all-in charge is adjusted accordingly.)
- Operating income before depreciation and amortization (D&A) and EBITDA are increased for the imputed interest expense and imputed depreciation component, the total of which equals the entire amount paid for PPA (subject to the risk factor).
- Operating income after D&A and EBIT are increased for interest expense.

Natural gas inventory adjustment

67. In jurisdictions where a pass-through mechanism is used to recover purchased natural gas costs of gas distribution utilities within one year, we adjust for seasonal changes in short-debt tied to building inventories of natural gas in non-peak periods for later use to meet peak loads in peak months. Such short-term debt is not considered to be part of the utility's permanent capital. Any history of non-trivial disallowances of purchased gas costs would preclude the use of this adjustment. The accounting of natural gas inventories and associated short-term debt used to finance the purchases must be segregated from other trading activities.

68. Adjustment procedures:

- Data requirements:
- Short-term debt amount associated with seasonal purchases of natural gas devoted to meeting peak-load needs of captive utility customers (obtained from the company).

- Calculations:
- Adjustment to debt--we subtract the identified short-term debt from total debt.

Securitized debt adjustment

69. For regulated utilities, we deconsolidate debt (and associated revenues and expenses) that the utility issues as part of a securitization of costs that have been segregated for specialized recovery by the government entity constitutionally authorized to mandate such recovery if the securitization structure contains a number of protective features:

- An irrevocable, non-bypassable charge and an absolute transfer and first-priority security interest in transition property;
- Periodic adjustments ("true-up") of the charge to remediate over- or under-collections compared with the debt service obligation. The true-up ensures collections match debt service over time and do not diverge significantly in the short run; and,
- Reserve accounts to cover any temporary short-term shortfall in collections.

70. Full cost recovery is in most instances mandated by statute. Examples of securitized costs include "stranded costs" (above-market utility costs that are deemed unrecoverable when a transition from regulation to competition occurs) and unusually large restoration costs following a major weather event such as a hurricane. If the defined features are present, the securitization effectively makes all consumers responsible for principal and interest payments, and the utility is simply a pass-through entity for servicing the debt. We therefore remove the debt and related revenues and expenses from our measures. (See "Securitizing Stranded Costs," Jan. 18, 2001, for background information.)

71. Adjustment procedures:

- Data requirements:
- Amount of securitized debt on the utility's balance sheet at period end;
- Interest expense related to securitized debt for the period; and
- Principal payments on securitized debt during the period.

- Calculations:
- Adjustment to debt: We subtract the securitized debt from total debt.
- Adjustment to revenues: We reduce revenue allocated to securitized debt principal and interest. The adjustment is the sum of interest and principal payments made during the year.
- Adjustment to operating income after depreciation and amortization (D&A) and EBIT: We reduce D&A related to the securitized debt, which is assumed to equal the principal payments during the period. As a result, the reduction to operating income after D&A is only for the interest portion.
- Adjustment to interest expense: We remove the interest expense of the securitized debt from total interest expense.

- Operating cash flows:
- We reduce operating cash flows for revenues and increase for the assumed interest amount related to the securitized debt. This results in a net decrease to operating cash flows equal to the principal repayment amount.

Infrastructure renewals expenditure

72. In England and Wales, water utilities can report under either IFRS or U.K. GAAP. Those that report under U.K. GAAP are allowed to adopt infrastructure renewals accounting, which enables the companies to capitalize the maintenance spending on their underground assets, called infrastructure renewals expenditure (IRE). Under IFRS, infrastructure renewals accounting is not permitted and maintenance expenditure is charged to earnings in the year incurred. This difference typically results in lower adjusted operating cash flows for those companies that report maintenance expenditure as an operating cash flow under IFRS, than for those that report it as capital expenditure under U.K. GAAP. We therefore make financial adjustments to amounts reported by water issuers that apply U.K. GAAP, with the aim of making ratios more comparable with those issuers that report under IFRS and U.S. GAAP. For example, we deduct IRE from EBITDA and FFO.

73. IRE does not always consist entirely of maintenance expenditure that would be expensed under IFRS. A portion of IRE can relate to costs that would be eligible for capitalization as they meet the recognition criteria for a new fixed asset set out in International Accounting Standard 16 that addresses property, plant, and equipment. In such cases, we may refine our adjustment to U.K. GAAP companies so that we only deduct from FFO the portion of IRE that would not be capitalized under IFRS. However, the information to make such a refinement would need to be of high quality, reliable, and ideally independently verified by a third party, such as the company's auditor. In the absence of this, we assume

that the entire amount of IRE would have been expensed under IFRS and we accordingly deduct the full expenditure from FFO.

74. Adjustment procedures:

- Data requirements:
- U.K. GAAP accounts typically provide little information on the portion of capital spending that relates to renewals accounting, or the related depreciation, which is referred to as the infrastructure renewals charge. The information we use for our adjustments is, however, found in the regulatory cost accounts submitted annually by the water companies to the Water Services Regulation Authority, which regulates all water companies in England and Wales.

- Calculations:
- EBITDA: Reduced by the value of IRE that was capitalized in the period.
- EBIT: Adjusted for the difference between the adjustment to EBITDA and the reduction in the depreciation expense, depending on the degree to which the actual cash spending in the current year matches the planned spending over the five-year regulatory review period.
- Cash flow from operations and FFO: Reduced by the value of IRE that was capitalized in the period.
- Capital spending: Reduced by the value of infrastructure renewals spending that we reclassify to cash flow from operations.
- Free operating cash flow: No impact, as the reduction in operating cash flows is exactly offset by the reduction in capital spending.

E. Cash flow/leverage analysis

75. In assessing the cash flow adequacy of a regulated utility, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology"). We assess cash flow/leverage on a six-point scale ranging from ('1') minimal to ('6') highly leveraged. These scores are determined by aggregating the assessments of a range of credit ratios, predominantly cash flow-based, which complement each other by focusing attention on the different levels of a company's cash flow waterfall in relation to its obligations.

76. The corporate methodology provides benchmark ranges for various cash flow ratios we associate with different cash flow leverage assessments for standard volatility, medial volatility, and low volatility industries. The tables of benchmark ratios differ for a given ratio and cash flow leverage assessment along two dimensions: the starting point for the ratio range and the width of the ratio range.

77. If an industry's volatility levels are low, the threshold levels for the applicable ratios to achieve a given cash flow leverage assessment are less stringent, although the width of the ratio range is narrower. Conversely, if an industry has standard levels of volatility, the threshold levels for the applicable ratios to achieve a given cash flow leverage assessment may be elevated, but with a wider range of values.

78. We apply the "low-volatility" table to regulated utilities that qualify under the corporate criteria and with all of the following characteristics:

- A vast majority of operating cash flows come from regulated operations that are predominantly at the low end of the utility risk spectrum (e.g., a "network," or distribution/transmission business unexposed to commodity risk and with very low operating risk);
- A "strong" regulatory advantage assessment;

- An established track record of normally stable credit measures that is expected to continue;
- A demonstrated long-term track record of low funding costs (credit spread) for long-term debt that is expected to continue; and
- Non-utility activities that are in a separate part of the group (as defined in our group rating methodology) that we consider to have "nonstrategic" group status and are not deemed high risk and/or volatile.

79. We apply the "medial volatility" table to companies that do not qualify under paragraph 78 with:

- A majority of operating cash flows from regulated activities with an "adequate" or better regulatory advantage assessment; or
- About one-third or more of consolidated operating cash flow comes from regulated utility activities with a "strong" regulatory advantage and where the average of its remaining activities have a competitive position assessment of '3' or better.

80. We apply the "standard-volatility" table to companies that do not qualify under paragraph 79 and with either:

- About one-third or less of its operating cash flow comes from regulated utility activities, regardless of its regulatory advantage assessment; or
- A regulatory advantage assessment of "adequate/weak" or "weak."

Part III--Rating Modifiers

F. Diversification/portfolio effect

81. In assessing the diversification/portfolio effect on a regulated utility, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology").

G. Capital structure

82. In assessing the quality of the capital structure of a regulated utility, we use the same methodology as with other corporate issuers (see "Corporate Methodology").

H. Liquidity

83. In assessing a utility's liquidity/short-term factors, our analysis is consistent with the methodology that applies to corporate issuers (See "Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers," Nov. 19, 2013) except for the standards for "adequate" liquidity set out in paragraph 84 below.

84. The relative certainty of financial performance by utilities operating under relatively predictable regulatory monopoly frameworks make these utilities attractive to investors even in times of economic stress and market turbulence compared to conventional industrials. For this reason, utilities with business risk profiles of at least "satisfactory" meet our definition of "adequate" liquidity based on a slightly lower ratio of sources to uses of funds of 1.1x compared with the standard 1.2x. Also, recognizing the cash flow stability of regulated utilities we allow more discretion when calculating covenant headroom. We consider that utilities have adequate liquidity if they generate positive sources over uses, even if forecast EBITDA declines by 10% (compared with the 15% benchmark for corporate issuers) before covenants are breached.

I. Financial policy

85. In assessing financial policy on a regulated utility, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology").

J. Management and governance

86. In assessing management and governance on a regulated utility, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology").

K. Comparable ratings analysis

87. In assessing the comparable ratings analysis on a regulated utility, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology").

Appendix--Frequently Asked Questions

Does Standard & Poor's expect that the business strategy modifier to the preliminary regulatory advantage will be used extensively?

88. Globally, we expect management's influence will be neutral in most jurisdictions. Where the regulatory assessment is "strong," it is less likely that a negative business strategy modifier would be used due to the nature of the regulatory regime that led to the "strong" assessment in the first place. Utilities in "adequate/weak" and "weak" regulatory regimes are challenged to outperform due to the uncertainty of such regulatory regimes. For a positive use of the business strategy modifier, there would need to be a track record of the utility consistently outperforming the parameters laid down under a regulatory regime, and we would need to believe this could be sustained. The business strategy modifier is most likely to be used when the preliminary regulatory advantage assessment is "strong/adequate" because the starting point in the assessment is reasonably supportive, and a utility has shown it manages regulatory risk better or worse than its peers in that regulatory environment and we expect that advantage or disadvantage will persist. An example would be a utility that can consistently earn or exceed its authorized return in a jurisdiction where most other utilities struggle to do so. If a utility is treated differently by a regulator due to perceptions of poor customer service or reliability and the "operating efficiency" component of the competitive position assessment does not fully capture the effect on the business risk profile, a negative business strategy modifier could be used to accurately incorporate it into our analysis. We expect very few utilities will be assigned a "very negative" business strategy modifier.

Does a relatively strong or poor relationship between the utility and its regulator compared with its peers in the same jurisdiction necessarily result in a positive or negative adjustment to the preliminary regulatory advantage assessment?

89. No. The business strategy modifier is used to differentiate a company's regulatory advantage within a jurisdiction where we believe management's business strategy has and will positively or negatively affect regulatory outcomes beyond what is typical for other utilities in that jurisdiction. For instance, in a regulatory jurisdiction where allowed returns are negotiated rather than set by formula, a utility that is consistently authorized higher returns (and is able to earn that return) could warrant a positive adjustment. A management team that cannot negotiate an approved capital spending program to improve its operating performance could be assessed negatively if its performance lags behind peers in the same regulatory jurisdiction.

What is your definition of regulatory jurisdiction?

90. A regulatory jurisdiction is defined as the area over which the regulator has oversight and could include single or multiple subsectors (water, gas, and power). A geographic region may have several regulatory jurisdictions. For example, the Office of Gas and Electricity Markets and the Water Services Regulation Authority in the U.K. are considered separate regulatory jurisdictions. In Ontario, Canada, the Ontario Energy Board represents a single jurisdiction with regulatory oversight for power and gas. Also, in Australia, the Australian Energy Regulator would be considered a single jurisdiction given that it is responsible for both electricity and gas transmission and distribution networks in the entire country, with the exception of Western Australia.

Are there examples of different preliminary regulatory advantage assessments in the same country or jurisdiction?

91. Yes. In Israel we rate a regulated integrated power utility and a regulated gas transmission system operator (TSO). The power utility's relationship with its regulator is extremely poor in our view, which led to significant cash flow volatility in a stress scenario (when terrorists blew up the gas pipeline that was then Israel's main source of natural gas, the utility was unable to negotiate compensation for expensive alternatives in its regulated tariffs). We view the gas TSO's relationship with its regulator as very supportive and stable. Because we already reflected this in very different preliminary regulatory advantage assessments, we did not modify the preliminary assessments because the two regulatory environments in Israel differ and were not the result of the companies' respective business strategies.

How is regulatory advantage assessed for utilities that are a natural monopoly but are not regulated by a regulator or a specific regulatory framework, and do you use the regulatory modifier if they achieve favorable treatment from the government as an owner?

92. The four regulatory pillars remain the same. On regulatory stability we look at the stability of the setup, with more emphasis on the historical track record and our expectations regarding future changes. In tariff-setting procedures and design we look at the utility's ability to fully recover operating costs, investments requirements, and debt-service obligations. In financial stability we look at the degree of flexibility in tariffs to counter volume risk or commodity risk. The flexibility can also relate to the level of indirect competition the utility faces. For example, while Nordic district heating companies operate under a natural monopoly, their tariff flexibility is partly restricted by customers' option to change to a different heating source if tariffs are significantly increased. Regulatory independence and insulation is mainly based on the perceived risk of political intervention to change the setup that could affect the utility's credit profile. Although political intervention tends to be mostly negative, in certain cases political ties due to state ownership might positively influence tariff determination. We believe that the four pillars effectively capture the benefits from the close relationship between the utility and the state as an owner; therefore, we do not foresee the use of the regulatory modifier.

In table 1, when describing a "strong" regulatory advantage assessment, you mention that there is support of cash flows during construction of large projects, and preapproval of capital investment programs and large projects lowers the risk of subsequent disallowances of capital costs. Would this preclude a "strong" regulatory advantage assessment in jurisdictions where those practices are absent?

93. No. The table is guidance as to what we would typically expect from a regulatory framework that we would assess as "strong." We would expect some frameworks with no capital support during construction to receive a "strong" regulatory advantage assessment if in aggregate the other factors we analyze support that conclusion.

RELATED CRITERIA AND RESEARCH

- Corporate Methodology, Nov. 19, 2013
- Group Rating Methodology, Nov. 19, 2013
- Methodology: Industry Risk, Nov. 19, 2013
- Corporate Methodology: Ratios And Adjustments, Nov. 19, 2013
- Ratings Above The Sovereign--Corporate And Government Ratings: Methodology And Assumptions, Nov. 19, 2013
- Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Nov. 19, 2013
- Collateral Coverage And Issue Notching Rules For '1+' And '1' Recovery Ratings On Senior Bonds Secured By Utility Real Property, Feb. 14, 2013
- Methodology: Management And Governance Credit Factors For Corporate Entities and Insurers, Nov. 13, 2012
- General Criteria: Principles Of Credit Ratings, Feb. 16, 2011
- General Criteria: Rating Government-Related Entities: Methodology And Assumptions, Dec. 9, 2010

These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.

WATER UTILITY INDUSTRY

Stocks in the Water Utility Industry have traditionally been purchased by income-oriented investors for their yield and dividend growth prospects. Accounts interested in these equities typically are willing to sacrifice capital appreciation in return for a well-defined income stream and a reduced amount of risk. This may be changing, however, as the yields of many water utility stocks are now lower than the *Value Line* median.

Five of the eight regulated utility stocks we follow outperformed the market averages since we last reviewed the group three months ago. Of these, the best performers were the small capitalization equities.

From an operational standpoint, the group continued to post decent earnings. Much of this is the result of positive regulatory climates in many states around the country.

Capital spending in the industry is significant as the water infrastructure in the United States had long been neglected. Utilities are now investing heavily to replace aging pipelines and valves, and to modernize wastewater facilities.

Consolidation remains an ongoing trend in the industry. Smaller municipally run water districts do not have sufficient funds to bring their plant and equipment up to EPA-mandated standards. As a result, they are being merged with larger utilities that have better access to capital. In addition, because this industry is plagued with redundancies, mergers are leading to economies of scale.

Are Water Utility Stocks Still Yield Plays?

The average dividend yield on the eight regulated water utilities we follow is currently 2.1%, or exactly the same as the median for all stocks in the *Value Line* universe. Historically, the yield on these stocks has been much higher. As an example, the typical yield on an electric utility equity is about 3.6%, or 150 basis points higher than the water utility industry. Why is this? One reason is that when taken as a whole, the market capitalization of the group is very modest. Thus, it doesn't take a large shift into the sector by institutional investors to drive the price of these stocks higher and their yields lower. Indeed, the three stocks with the best returns over the past three months were all small cap stocks. *York Water* and *SJW* each surged 30% while *Middlesex Water* rose about 25%. Before these moves, the market capitalization of each individual stock was $375 million, $850 million, and $550 million, respectively. The spike in prices has also left the equities with respective yields of 1.7%, 1.5%, and 2.1%. Taking a look at the three biggest members of the group, only *American Water Works* performed well, while *Aqua America* and *American States Water* both only rose a meager 1%.

Operations And Earnings Are Solid

For the most part, water companies have been experiencing reasonable earnings growth. This comes despite a nationwide trend aimed at getting households to reduce their consumption of water. How can the bottom line do well when state authorities and the utilities themselves are discouraging water usage? The answer is that many states have implemented strategies that not only don't penalize utilities for selling less water, but provides incentives for households to conserve more.

INDUSTRY TIMELINESS: 89 (of 97)

State regulatory authorities are actively working with the industry in a way that is benefited both parties. In drought-stricken California, regulators have changed the compensation methodology for water utilities. Now they earn income on a fee basis, regardless of the amount of water sold. This has proven to be successful in cutting consumption without hurting the utilities bottom line.

As we often point out, the most important factor in a any utility's success, whether it provides electricity, gas, or water, is the regulatory climate in which it operates. Harsh regulatory conditions can make it nearly impossible for the best run utilities to earn a reasonable return on their investment.

Looking forward, the outlook for continued successful cooperation between states and utilities seems likely. Both parties realize that for decades much-needed capital improvements were deferred. Industry experts are now in agreement that large sums have to be made to bring the nation's water infrastructure up to par. Because water bills have been less than homeowners have been paying for other utility services, there appears to be less resistant in increasing them.

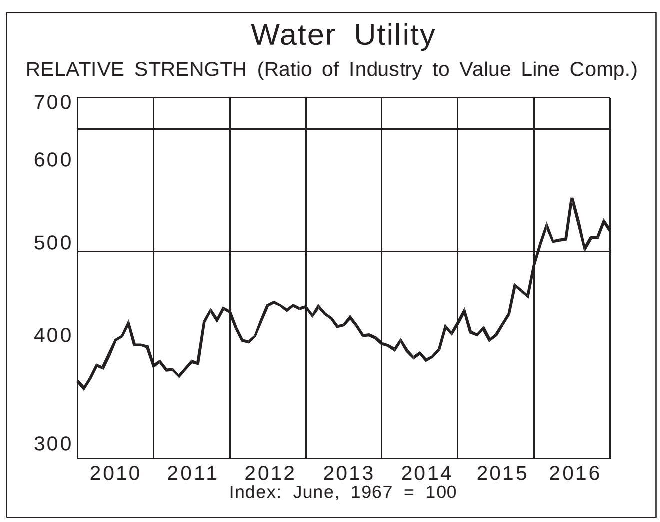
Consolidation

There are over 50,000 mostly small water authorities in the U. S. Many of these districts find themselves without the sums needed to modernize their facilities. As a result, many are merging with larger entities that have the financial wherewithal to make the required investment. *American Water Works*, *American States Water*, and *Aqua America* are three of the most active acquirers. Another benefit from these mergers is that there are a large amounts of redundancies in the industry and substantial cost savings can be achieved.

Conclusion

Our ranking system suggests that stock prices in this group are fully valued. None of the eight stocks are timely with *American Water Works*, *Connecticut Water Service*, *Middlesex Water*, *SJW Corp*, and *York Water* all ranked to underperform the market averages in the year ahead.

James A. Flood



NEW REGULATORY FINANCE

Roger A. Morin, PhD

2006
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securities to the point at which new purchases would earn only the old cost of capital on their investments. The only beneficiaries would be those who happened to own the stock at the time the policy change was announced or anticipated.

12.5 M/B Ratios in the Regulatory Process

It is sometimes argued that because current M/B ratios are in excess of 1.0, this indicates that companies are expected by investors to be able to earn more than their cost of capital, and that the regulating authority should lower the authorized return on equity, so that the stock price will decline to book value. It is therefore plausible, under this argument, that stock prices drop from the current M/B value to the desired M/B ratio range of 1.0 times book.

There are several reasons why this view of the role of M/B ratios in regulation should be avoided.

(1) The inference that M/B ratios are relevant and that regulators should set an ROE so as to produce an M/B of 1.0 is misguided. The stock price is set by the market, not by regulators. The M/B ratio is the end result of regulation, and not its starting point. The view that regulation should set an allowed rate of return so as to produce an M/B of 1.0 presumes that investors are irrational. They commit capital to a utility with an M/B in excess of 1.0, knowing full well that they will be inflicted a capital loss by regulators. This is certainly not a realistic or accurate view of regulation. For example, assume a utility company with an M/B ratio of 1.5. If investors expect the regulator to authorize a return on book value equal to the DCF cost of equity, the utility stock price would decline to book value, inflicting a capital loss of some 30%. The notion that investors are willing to pay a price of 1.5 times book value only to see the market value of their investment drop by 30% is irrational.

(2) The condition that the M/B will gravitate toward 1.0 if regulators set the allowed return equal to capital costs will be met only if the actual return expected to be earned by investors is at least equal to the cost of capital on a consistent long-term basis and absent inflation. The cost of capital of a company refers to the expected long-run earnings level of other firms with similar risk. If investors expect a utility to earn an ROE equal to its cost of equity in each period, then its M/B ratio would be approximately 1.0 or higher with the proper allowance for flotation cost.

(3) A company's achieved earnings in any given year are likely to exceed or be less than their long-run average. Depressed or inflated M/B ratios are to a considerable degree a function of forces outside the control of regulators, such as the general state of the economy, or general economic or financial circumstances that may affect the yields on securities of unregulated as well

as regulated enterprises. The achievement of a 1.0 M/B ratio is appropriate, but only in a long-run sense. For utilities to exhibit a long-run M/B ratio of 1.0, it is clear that during economic upturns and more favorable capital market conditions, the M/B ratio must exceed its long-run average of 1.0 to compensate for the periods during which the M/B ratio is less than its long-run average under less favorable economic and capital market conditions.

Historically, the M/B ratio for utilities has fluctuated above and below 1.0. It has been consistently above 1.0 from the 1980s to the mid 2000s. This indicates that earnings below capital costs and M/B ratios below 1.0 during less favorable economic and capital market conditions must necessarily be accompanied with earnings in excess of capital costs and M/B ratios above 1.00 during more favorable economic and capital market conditions.

M/B ratios are determined by the marketplace, and utilities cannot be expected to compete for and attract capital in an environment where industrials are commanding M/B ratios well in excess of 1.0 while regulation reduces their M/B ratios toward 1.0. Moreover, if regulators were to currently set rates so as to produce an M/B ratio of 1.0, not only would the long-run target M/B ratio of 1.0 be violated, but more importantly, the inevitable consequence would be to inflict severe capital losses on shareholders. Investors have not committed capital to utilities with the expectation of incurring capital losses from a misguided regulatory process.

(4) Rate of return regulation is fundamentally a surrogate for competition. The fundamental goal of regulation should be to set the expected economic profit for a public utility equal to the level of profits expected to be earned by firms of comparable risk, in short, to emulate the competitive result. For unregulated firms, the natural forces of competition will ensure that in the long run, the ratio of the market value of these firms' securities equals the replacement cost of their assets. Competitive industrials of comparable risk to utilities have consistently been able to maintain the real value of their assets in excess of book value, consistent with the notion that, under competition, the Q-ratio will tend to 1.00 and not the M/B ratio. This suggests that a fair and reasonable price for a public utility's common stock is one that produces equality between the market price of its common equity and the replacement cost of its physical assets. The latter circumstance will not necessarily occur when the M/B ratio is 1.0. As the previous section demonstrated, only when the book value of the firm's common equity equals the value of the firm's equity at replacement assets will equality hold.

In an inflationary period, the replacement cost of a firm's assets may increase more rapidly than its book equity. To avoid the resulting economic confiscation of shareholders' investment in real terms, the allowed rate of return should produce an M/B ratio which provides a Q-ratio of 1 or a Q-ratio equal to that of comparable firms. It is quite plausible and likely that M/B ratios will exceed one if inflation increases the replacement cost of a firm's assets at a faster pace than historical cost (book equity). Perhaps this explains in part why utility M/B ratios have remained well above 1.0 over the past two decades. Are we to conclude that regulators have been systematically misguided all across the United States for all these years by awarding overgenerous returns, or are we to conclude that M/B ratios are largely immaterial in the context of ratemaking? The latter is more likely.

Historically, it has been highly unusual for utility stock prices to equal book value. Stock prices above book value are common for utility stocks, and indeed for all of the major market indexes. It is obvious that regulators, through their rate case decisions, and investors do not subscribe to the notion that utilities that have market prices above book value are over-earning. Otherwise, regulators would not grant rate increases for any utility whose stock price was above book value, and investors would never bid up the price of stock above book value. It is very difficult to accept the notion that, in a free-market economy with rampant competition, the vast majority of all publicly traded stocks are earning well in excess of their cost of capital.

In short, economic principles do not support the notion that the market value of utility shares should necessarily equal book value. A basic economic principle holds that, in the long run, market value should equal asset replacement cost in a given industry. In the presence of inflation and absent significant technological advances, replacement cost exceeds the original cost book value of assets. Consequently, it is quite reasonable for the market value of utility shares to exceed their book value and there is no reason to conclude that market value should equal book value when one recognizes that regulation is intended to emulate competition.

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2006
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The average growth rate estimate from all the analysts that follow the company measures the consensus expectation of the investment community for that company. In most cases, it is necessary to use earnings forecasts rather than dividend forecasts due to the extreme scarcity of dividend forecasts compared to the widespread availability of earnings forecasts. Given the paucity and variability of dividend forecasts, using the latter would produce unreliable DCF results. In any event, the use of the DCF model prospectively assumes constant growth in both earnings and dividends. Moreover, as discussed below, there is an abundance of empirical research that shows the validity and superiority of earnings forecasts relative to historical estimates when estimating the cost of capital.

The uniformity of growth projections is a test of whether they are typical of the market as a whole. If, for example, 10 out of 15 analysts forecast growth in the 7%–9% range, the probability is high that their analysis reflects a degree of consensus in the market as a whole. As a side note, the lack of uniformity in growth projections is a reasonable indicator of higher risk. Chapter 3 alluded to divergence of opinion amongst analysts as a valid risk indicator.

Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of g. The accuracy of these forecasts in the sense of whether they turn out to be correct is not at issue here, as long as they reflect widely held expectations. As long as the forecasts are typical and/or influential in that they are consistent with current stock price levels, they are relevant. The use of analysts' forecasts in the DCF model is sometimes denounced on the grounds that it is difficult to forecast earnings and dividends for only one year, let alone for longer time periods. This objection is unfounded, however, because it is present investor expectations that are being priced; it is the consensus forecast that is embedded in price and therefore in required return, and not the future as it will turn out to be.

Empirical Literature on Earnings Forecasts

Published studies in the academic literature demonstrate that growth forecasts made by security analysts represent an appropriate source of DCF growth rates, are reasonable indicators of investor expectations and are more accurate than forecasts based on historical growth. These studies show that investors rely on analysts' forecasts to a greater extent than on historic data only.

Academic research confirms the superiority of analysts' earnings forecasts over univariate time-series forecasts that rely on history. This latter category

NEW REGULATORY FINANCE

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2006
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are able to research the different analyst estimates for any given stock without necessarily searching for each individual analyst. Zacks gathers and compiles the different estimates made by stock analysts on the future earnings for the majority of U.S. publicly traded companies. Estimates of earnings per share for the upcoming 2 fiscal years, and a projected 5-year growth rate in such earnings per share are available at monthly intervals. The forecast 5-year growth rates are normalized in order to remove short-term distortions. Forecasts are updated when analysts formally change their stated predictions.

Exclusive reliance on a single analyst's growth forecast runs the risk of being unrepresentative of investors' consensus forecast. One would expect that averages of analysts' growth forecasts, such as those contained in IBES or Zacks, are more reliable estimates of investors' consensus expectations likely to be impounded in stock prices.[13] Averages of analysts' growth forecasts rather than a single analyst's growth forecasts are more reliable estimates of investors' consensus expectations.

One problem with the use of published analysts' forecasts is that some forecasts cover only the next one or two years. If these are abnormal years, they may not be indicative of longer-run average growth expectations. Another problem is that forecasts may not be available in sufficient quantities or may not be available at all for certain utilities, for example water utilities, in which case alternate methods of growth estimation must be employed.

Some financial economists are uncomfortable with the assumption that the DCF growth rates are perpetual growth rates, and argue that above average growth can be expected to prevail for a fixed number of years and then the growth rate will settle down to a steady-state, long-run level, consistent with that of the economy. The converse also can be true whereby below-average growth can be expected to prevail for a fixed number of years and then the growth rate will resume a higher steady-state, long-run level. Extended DCF models are available to accommodate such assumptions, and were discussed in Chapter 8.

Earnings versus Dividend Forecasts

Casual inspection of the Zacks Investment Research, First Call Thompson, and Multex Web sites reveals that earnings per share forecasts dominate the information provided. There are few, if any, dividend growth forecasts. Only Value Line provides comprehensive long-term dividend growth forecasts. The wide availability of earnings forecasts is not surprising. There is an abundance of evidence attesting to the importance of earnings in assessing investors'

[13] The earnings growth rates published by Zacks, First Call, Reuters, Value Line, and IBES contain significant overlap since all rely on virtually the same population of institutional analysts who provide such forecasts.

expectations. The sheer volume of earnings forecasts available from the investment community relative to the scarcity of dividend forecasts attests to their importance. The fact that these investment information providers focus on growth in earnings rather than growth in dividends indicates that the investment community regards earnings growth as a superior indicator of future long-term growth. Surveys of analytical techniques actually used by analysts reveal the dominance of earnings and conclude that earnings are considered far more important than dividends. Finally, Value Line's principal investment rating assigned to individual stocks, Timeliness Rank, is based primarily on earnings, accounting for 65% of the ranking.

Historical Growth Rates Versus Analysts' Forecasts

Obviously, historical growth rates as well as analysts' forecasts provide relevant information to the investor with regard to growth expectations. Each proxy for expected growth brings information to the judgment process from a different light. Neither proxy is without blemish; each has advantages and shortcomings. Historical growth rates are available and easily verifiable, but may no longer be applicable if structural shifts have occurred. Analysts' growth forecasts may be more relevant since they encompass both history and current changes, but are nevertheless imperfect proxies.

9.5 Growth Estimates: Sustainable Growth Method

The third method of estimating the growth component in the DCF model, alternately referred to as the "sustainable growth" or "retention ratio" method, can be used by investment analysts to predict future growth in earnings and dividends. In this method, the fraction of earnings expected to be retained by the company, b, is multiplied by the expected return on book equity, r, to produce the growth forecast. That is,

$$g = b \times r$$

The conceptual premise of the method, enunciated in Chapter 8, Section 8.4, is that future growth in dividends for existing equity can only occur if a portion of the overall return to investors is reinvested into the firm instead of being distributed as dividends.

For example, if a company earns 12% on equity, and pays all the earnings out in dividends, the retention factor, b, is zero and earnings per share will not grow for the simple reason that there are no increments to the asset base (rate base). Conversely, if the company retains all its earnings and pays no dividends, it would grow at an annual rate of 12%. Or again, if the company earns 12% on equity and pays out 60% of the earnings in dividends, the

THE COST OF CAPITAL TO A PUBLIC UTILITY

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RWP-10
McKenzie
Page 1 of 3

its leverage rate. It can be shown that when $x = \rho$ the share price is independent of the firm's leverage rate. Hence, the cost of debt capital remains equal to ρ when retention is present.

2.8 Continuous New Equity Financing

In addition to or as an alternative to expanding through the periodic retention of earnings, a utility can expand through the sale of stock.[7] Consideration of the sale of stock as a source of funds requires the introduction of the following variables not listed previously.

W_t = total common equity at end of period t;
W_t^* = total common equity at end of t that accrues to shareholders at $t = 0$;
s = funds raised from the sale of stock as a fraction of existing common equity;
Q_t = funds raised from sale of stock during t; and
v = fraction of Q_t that accrues to shareholders at the start of t.

Let a utility's total common equity at $t = 0$ be $W_0 = NE_0$, and let the expected rate of growth in the common equity due to the sale of stock be s. The common equity one period later will be

$$W_1 = W_0 + bNY_1 + sW_0. \tag{2.8.1}$$

Since $NY_1 = rW_0$,

$$W_1 = W_0 + brW_0 + sW_0 = W_0[1 + br + s], \tag{2.8.2}$$

and

$$W_n = W_0[1 + br + s]^n. \tag{2.8.3}$$

In each period the total equity is raised by the fraction br due to retention and by s due to the sale of additional shares.

At the end of $t = n$ the total common equity will include the equity of the shareholders at $t = 0$ and the equity arising from

[7] This section is based on chapter 9 of M. J. Gordon [15].

the sale of shares from $t = 0$ through $t = n$. What we are interested in, however, is the expected equity and the dividend at $t = n$ on a share outstanding at $t = 0$. Let $Q_n = sW_{n-1}$ be the funds raised from the sale of stock during n, and let v be the fraction of the funds provided during n that accrues to the shareholders at the start of n. The meaning and derivation of v will be developed in the course of what follows.

Let W_n^* be the portion of the total common equity at the end of $t = n$ that belongs to the share outstanding at $t = 0$. Then

$$W_1^* = W_0 + brW_0 + vsW_0, \tag{2.8.4}$$

and

$$W_n^* = W_0[1 + br + vs]^n. \tag{2.8.5}$$

Dividing both sides of Eq. (2.8.5) by N and multiplying by r, we obtain

$$Y_{n+1}^* = Y_1[1 + br + vs]^n. \tag{2.8.6}$$

The earnings on a share at $t = 0$ are expected to grow at the rate br due to retention and at vs due to the sale of additional stock. Making the indicated substitutions, our stock value model becomes

$$P = \sum_{t=1}^{\infty} \frac{(1 - b)Y[1 + br + vs]^{t-1}}{(1 + k)^t}. \tag{2.8.7}$$

If $k > br + vs$, Eq. (2.8.7) becomes

$$P = \frac{(1 - b)Y}{k - br - vs}. \tag{2.8.8}$$

The only change in Eq. (2.7.8) necessary to recognize the expectation of continuous stock financing at the rate s is the change in the expected rate of growth to $br + vs$.

The meaning of v may be explained simply as follows. When a new issue is sold at a price per share $P = E$, the equity of the new shareholders in the firm is equal to the funds they contribute.

RWP-10
McKenzie
Page 2 of 3

and the equity of the existing shareholders is not changed. However, if $P > E$, part of the funds raised accrues to the existing shareholders. Specifically, it can be shown that

$$v = 1 - \frac{E}{P} \tag{2.8.9}$$

is the fraction of the funds raised by the sale of stock that increases the book value of the existing shareholders' common equity. Also, v is the fraction of earnings and dividends generated by the new funds that accrues to the existing shareholders.

A more rigorous derivation of v follows. If the market for a firm's new shares is perfectly competitive, the number of shares given to new shareholders during $t = n$ in return for Q_n dollars must satisfy two conditions. The first is that the new issue must be sold at the prevailing price per share at the time of the issue. The other condition is that the dividend expectation a new shareholder obtains should have a present value equal to Q_n, the money he invests, when discounted at the rate k. With r the return the utility earns on common equity investment, b the retention rate, and $(1 - v)$ Q_n the book value of the common equity obtained by the new shareholders, their dividend in $n + 1$ will be

$$D^*_{n+1} = (1 - b)r(1 - v)Q_n. \tag{2.8.10}$$

Once in the corporation the new shares are identical with the old shares. Their dividends also are expected to grow at the rate $br + vs$. Hence, the above two conditions are satisfied if

$$\begin{aligned} Q_n &= \sum_{t=n+1}^{\infty} \frac{(1 - b)r(1 - v)Q_n(1 + br + vs)^{t-n-1}}{(1 + k)^{t-n}} \\ &= \frac{(1 - b)r(1 - v)Q_n}{k - br - vs}. \end{aligned} \tag{2.8.11}$$

Dividing both sides of Eq. (2.8.11) by Q_n and solving for v, we obtain

$$v = \frac{r - k}{r - rb - s}. \tag{2.8.12}$$

It can be shown that Eqs. (2.8.12) and (2.8.9) produce identical values of v. The interesting property of Eq. (2.8.12) is that it makes clear that the cost of new equity capital is ρ for continuous new equity financing as well as one-shot new equity financing. When $r = k$, $v = 0$, and new stock financing at the rate s has no impact on P. Of course, if $r = k$ then $x = \rho$. When $r > k$, v is positive, and share price increases with s.

The assumption that a utility is expected to stock finance at the rate s has implications for the measurement of k. The yield at which a share with continuous growth at the rate g sells is

$$k = \frac{D}{P} + g, \tag{2.8.13}$$

the current dividend yield plus the expected rate of growth in the dividend. However, now $g = br + vs$ and not simply br. It also should be noted that continuous stock financing at the rate s poses problems similar to continuous retention at the rate b. When $k < br + vs$, the model breaks down in explosive growth. The above discussion of the resolution of the dilemma posed by $\rho < bx$ applies here. It also may have been noted from Eq. (2.8.12) that v is negative with $r > k$ when $r < rb + s$ or $r(1 - b) < s$. This is reasonable, although it may appear strange. Notice that $r(1 - b)$ and s are the outflow and inflow of funds due to dividends and stock financing expressed as fractions of the common equity. When $r(1 - b) < s$ the company is expected, in effect, to draw funds from stockholders for all future time. Clearly it is nonoptimal for a company to set $s > r(1 - b)$, and the case may be ignored.

2.9 *Finite Horizon Model*

We have seen that if $x > \rho$ and b and/or s are large we can have $k \leq g$, and our continuous growth models break down. A resolution of this dilemma consistent with the perfectly competitive capital markets assumptions is provided by withdrawing the assumption that the dividend is expected to grow at the current rate g for all future time. Specifically, a utility with a very large x reasonably will invest at a very high rate. The resultant high values

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Chapter 2

Introduction to the Cost of Capital

Defining the Cost of Capital

Ibbotson® Stocks, Bonds, Bills, and Inflation® (SBBI®) historical data can be used, along with other inputs, to make forecasts of the future, including estimates of the cost of capital. A cost of capital estimate seeks to discern the expected return, or forecast mean return, on an investment in a security, firm, project, or division.

The cost of capital (sometimes called the expected or required rate of return or the discount rate) can be viewed from three different perspectives. On the asset side of a firm's balance sheet, it is the rate that should be used to discount to a present value the future expected cash flows. On the liability side, it is the economic cost to the firm of attracting and retaining capital in a competitive environment, in which investors (capital providers) carefully analyze and compare all return-generating opportunities. On the investor's side, it is the return one expects and requires from an investment in a firm's debt or equity. While each of these perspectives might view the cost of capital differently, they are all dealing with the same number.

The cost of capital is always an expectational or forward-looking concept. While the past performance of an investment and other historical information can be good guides and are often used to estimate the required rate of return on capital, the expectations of future events are the only factors that actually determine the cost of capital. An investor contributes capital to a firm with the expectation that the business's future performance will provide a fair return on the investment. If past performance were the criterion most important to investors, no one would invest in start-up ventures. It should also be noted that the cost of capital is a function of the investment, not the investor.

The cost of capital is an opportunity cost. Some people consider the phrase "opportunity cost of capital" to be

The Ibbotson® SBBI® Data Series

SBBI Data Series	Series Construction	Index Components	Approximate Maturity
1. Large Company Stocks	S&P 500 Composite with dividends reinvested. (S&P 500, 1957–Present; S&P 90, 1926–1956)	Total Return Income Return Capital Appreciation Return	N/A
2. Ibbotson Small Company Stocks	Fifth capitalization quintile of stocks on the NYSE for 1926–1981. Performance of the DFA U.S. 9-10 Small Company Portfolio January 1982–March 2001. Performance of the DFA U.S. Micro Cap Portfolio April 2001–Present.	Total Return	N/A
3. Long-Term Corporate Bonds	Citigroup Long-Term High Grade Corporate Bond Index	Total Return	20 Years
4. Long-Term Government Bonds	A One-Bond Portfolio	Total Return Income Return Capital Appreciation Return Yield	20 Years
5. Intermediate-Term Government Bonds	A One-Bond Portfolio	Total Return Income Return Capital Appreciation Return Yield	5 Years
6. U.S. Treasury Bills	A One-Bill Portfolio	Total Return	30 Days
7. Consumer Price Index	CPI—All Urban Consumers, not seasonally adjusted	Inflation Rate	N/A

The series presented here are total returns and, where applicable or available, capital appreciation returns and income returns. A description of the Center for Research in Security Prices small stock data is found in Chapter 7, Firm Size and Return.

NEW REGULATORY FINANCE

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2006
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these two years excluded. It is clear from this example that a long time period is required to accurately estimate the equity risk premium. The shorter 30-year period places too much emphasis on the poor market performances of 1973–1974. In fact, the equity risk premium recovers significantly in more recent periods once the years 1973 and 1974 are truncated from the analysis, as seen in the rolling 20-year and 10-year Ibbotson data.

Some analysts employ a rolling average approach. For example, the analyst arbitrarily assumes a given time frame over which the equity risk premium should be calculated, say 30 years, and calculates a 30-year equity risk premium for all time periods from 1926 to the present. There is a premium for 1926–1955, 1927–1956, and so on to the present. The successive premiums are averaged to arrive at the eventual equity risk premium. This approach is highly suspect because it overweighs the middle years. In the example, the year 1926 appears in one 30-year average, 1927 in two 30-year averages, etc. Yet, the most current (and relevant) time period only appears once. The middle periods are given an inordinate amount of weight using this approach. The other fallacy of the approach is that it assumes that a 30-year period is an appropriate historical window over which to estimate the equity risk premium. This assumption is highly arbitrary.

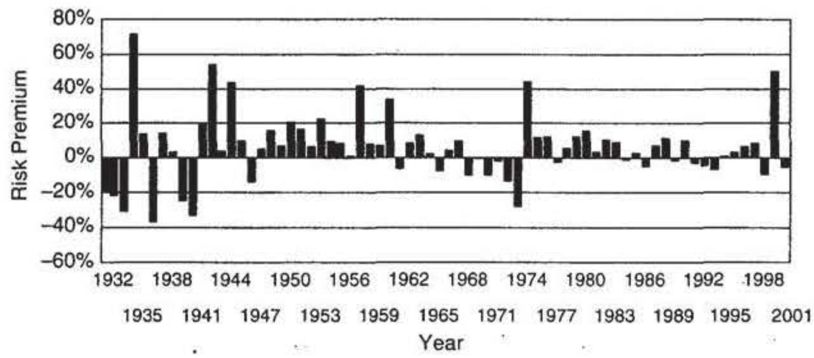
While forward-looking risk premiums based on expected returns are preferable, historical return studies over long periods still provide a useful guide for the future. This is because over long periods, investors' expectations are eventually revised to match historical realizations, as market prices adjust to match anticipated and actual investment results. Otherwise, investors would never commit investment capital. In the long run, the difference between expected and realized risk premiums will decline because short-run periods during which investors earn a lower risk premium than they expect are offset by short-run periods during which investors earn a higher risk premium than they expect. Second, the investors' current expectations concerning the amount by which the return on equity will exceed the bond yield will be strongly influenced by historical differences in returns to bond and stock investors. For these reasons, we can estimate investors' current expected returns from an equity investment from knowledge of current bond yields and past differences between returns on stocks and bonds.

Computational Issues: Arithmetic vs Geometric Average

The second problem in relying on historical return results is the method of averaging historical returns, that is, whether to use the ordinary average (arithmetic mean) or the geometric mean return. Because valuation is forward-looking, the appropriate average is the one that most accurately approximates the expected future rate of return. The best estimate of expected returns over a given future holding period is the arithmetic average. Only arithmetic means are correct for forecasting purposes and for estimating the cost of capital. There is no theoretical or empirical justification for the use of geometric mean rates of returns as a measure of the appropriate discount rate in computing the cost of capital or in computing present values. There is no dispute in academic circles as to whether the arithmetic or geometric average should be used for purposes of computing the cost of capital. The arithmetic mean should always be used in calculating the present value of a cash flow stream. Appendix A contains a comprehensive discussion of this issue, including the underlying theory, empirical evidence, and formal demonstrations.

Drawn from an actual rate case, the implementation of the historical Risk Premium approach is illustrated in Example 4-1 for the electric utility industry. Over the long term, realized utility equity risk premiums were 5.6% above Treasury bond yields for electric utilities.

FIGURE 4-2
EQUITY RISK PREMIUM
Electric Utilities 1931–2002



EXAMPLE 4-1

As a proxy for the risk premium applicable to the electric utility industry, a historical risk premium for the electric utility industry is estimated with an annual time series analysis applied to the industry as a whole, using *Moody's Electric Utility Index* as an industry proxy. The analysis is depicted in Figure 4-2. The risk premium is estimated by computing the actual return on equity capital for Moody's Index for each year, using the actual stock prices and dividends of the index, and then subtracting the long-term government bond return for that year. Dividend yields and stock prices on the index are obtained from *Moody's*

(continued next page)

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Chapter 2

Introduction to the Cost of Capital

Defining the Cost of Capital

Ibbotson® Stocks, Bonds, Bills, and Inflation® (SBBI®) historical data can be used, along with other inputs, to make forecasts of the future, including estimates of the cost of capital. A cost of capital estimate seeks to discern the expected return, or forecast mean return, on an investment in a security, firm, project, or division.

The cost of capital (sometimes called the expected or required rate of return or the discount rate) can be viewed from three different perspectives. On the asset side of a firm's balance sheet, it is the rate that should be used to discount to a present value the future expected cash flows. On the liability side, it is the economic cost to the firm of attracting and retaining capital in a competitive environment, in which investors (capital providers) carefully analyze and compare all return-generating opportunities. On the investor's side, it is the return one expects and requires from an investment in a firm's debt or equity. While each of these perspectives might view the cost of capital differently, they are all dealing with the same number.

The cost of capital is always an expectational or forward-looking concept. While the past performance of an investment and other historical information can be good guides and are often used to estimate the required rate of return on capital, the expectations of future events are the only factors that actually determine the cost of capital. An investor contributes capital to a firm with the expectation that the business's future performance will provide a fair return on the investment. If past performance were the criterion most important to investors, no one would invest in start-up ventures. It should also be noted that the cost of capital is a function of the investment, not the investor.

The cost of capital is an opportunity cost. Some people consider the phrase "opportunity cost of capital" to be

The Ibbotson® SBBI® Data Series

SBBI Data Series	Series Construction	Index Components	Approximate Maturity
1. Large Company Stocks	S&P 500 Composite with dividends reinvested. (S&P 500, 1957–Present; S&P 90, 1926–1956)	Total Return Income Return Capital Appreciation Return	N/A
2. Ibbotson Small Company Stocks	Fifth capitalization quintile of stocks on the NYSE for 1926–1981. Performance of the DFA U.S. 9-10 Small Company Portfolio January 1982–March 2001. Performance of the DFA U.S. Micro Cap Portfolio April 2001–Present.	Total Return	N/A
3. Long-Term Corporate Bonds	Citigroup Long-Term High Grade Corporate Bond Index	Total Return	20 Years
4. Long-Term Government Bonds	A One-Bond Portfolio	Total Return Income Return Capital Appreciation Return Yield	20 Years
5. Intermediate-Term Government Bonds	A One-Bond Portfolio	Total Return Income Return Capital Appreciation Return Yield	5 Years
6. U.S. Treasury Bills	A One-Bill Portfolio	Total Return	30 Days
7. Consumer Price Index	CPI—All Urban Consumers, not seasonally adjusted	Inflation Rate	N/A

The series presented here are total returns and, where applicable or available, capital appreciation returns and income returns. A description of the Center for Research in Security Prices small stock data is found in Chapter 7, Firm Size and Return.

Common Equity Flotation Costs and Rate Making

By EUGENE F. BRIGHAM, DANA ABERWALD, and LOUIS C. GAPENSKI

The proper treatment of common stock flotation costs is an issue in almost every utility rate case, and becomes increasingly important – for reasons shown in this article – as new stock offerings decline. The article provides clarification of the issue and offers a reasonable solution.

Incorrect statements have been made about the proper treatment of common equity flotation costs in the financial literature, and this has contributed to incorrect rate case testimony and to several improper decisions. The problem seems to have arisen for two reasons: (1) During the 1970s, when most utilities were raising large amounts of equity, the case for an equity cost adjustment was generally based on the need to sell common stock at prices greater than book value so as to avoid dilution when new stock was sold, but the proper rationale for the adjustment, and the argument that should have been made, is that an adjustment is necessary to recover actual incurred costs. (2) A number of academic writers [1, 2, 3, 6, 7, 8, 11][1] have attempted to deal with the problem algebraically, and while a mathematical approach has merit, the different authors based their models on different and somewhat obscure assumptions, with the result that the academic research has actually done more to confuse than to clarify the issue.

As we see it, there are two questions which need answers:

1) Is an adjustment needed even if a company has no plans to sell new common stock in the foreseeable future?
2) If an adjustment is required, should it be applied to common stock only or to total common equity (common stock plus retained earnings)?

The answers are "yes" to the first question and "total common equity" to the second. Specifically, the market-determined cost of equity should be adjusted (increased) to reflect issuance costs associated with past issues regardless of whether a company plans to issue stock in the future or not, and the adjustment should be applied to the total common equity, including retained earnings. The reasons for these conclusions are set forth in the balance of this article.

Background and Approach

The flotation cost adjustment – whether for bonds, preferred stocks, or common equity – is designed to convert a market rate of return into a fair rate of return on accounting book values. Prior to the 1970s, most utilities were regulated on the basis of the comparable earnings approach. With that method no market return was involved, and hence there was no need for a common equity flotation adjustment. However, as use of market-oriented equity cost approaches, especially the discounted cash flow (DCF) method, became prevalent during the 1970s, a specific flotation adjustment became necessary. The first use of DCF, to the authors' knowledge, was by Professor Myron J. Gordon as a staff witness in an American Telephone and Telegraph Company rate case before the Federal Communications Commission in the mid-1960s. Professors Alexander A. Robichek and Ezra Solomon of Stanford University, testifying for AT&T, proved that if a commission correctly identifies and then allows a *company* to earn its DCF cost of equity, k, on book equity, then *investors* will never be able to earn k on their investment, because the capital that investors have put up will exceed the company's book equity as a result of issuance (or flotation) costs. Thus, in the very first

[1] Numbers in brackets correspond to numbers in the list of references at the end of the article.

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case where DCF methodology was used, Robichek and Solomon proved, and Gordon accepted, the idea that the allowed return on equity should exceed the DCF cost. Unfortunately, only the need for an adjustment, not the proper adjustment mechanism itself, was identified in that rate case.

The DCF method's great increase in popularity occurred during the 1970s, just when the companies were raising unprecedented amounts of new equity capital. Witnesses who used the DCF method recognized the need for an adjustment, and they had to provide a rationale to commissioners. Most witnesses gave this explanation:

1) If a company were allowed to earn only its DCF cost of equity, then its stock would normally sell at book value.
2) When new stock was issued, flotation expenses plus market pressure would drive the price of the stock below book value.
3) The issuance of stock at below book value would dilute the book value of the existing shares, and since future earnings and dividends are dependent upon book value, the market value of existing stock would also be diluted.
4) This dilution would obviously harm current stockholders; indeed, it would amount to economic confiscation.
5) Therefore, fair regulation requires commissioners to set authorized returns high enough to cause utility stocks to sell at prices that exceed book value by an amount sufficient to prevent below-book sales.

This argument was correct, although incomplete, and it was generally accepted during the 1970s, when most utilities were selling new stock every year or two. There were, of course, arguments about the level of flotation costs and the extent of market pressure, and hence about the proper market-to-book ratio, but the logic of some type of adjustment was rarely questioned.

However, as many utilities' construction programs neared completion in the early 1980s, and, accordingly, as new stock offerings slowed, the issue of the need for a flotation adjustment resurfaced. Patterson [6, 7] applied standard corporate finance techniques and concluded that a flotation adjustment is needed irrespective of current equity sales. Richter [11] supported Patterson's position. Arzac and Marcus [1, 2] also concluded that a flotation adjustment is always needed, but their formula produces an almost trivial adjustment factor unless the company is selling very large amounts of stock every year. Patterson and Arzac-Marcus debated in the finance journals, but they reached no reconciliation. Finally, in the latest article, Professors Bierman and Hass [3] derived yet another formula, one which produces an adjustment factor between those recommended by Patterson and Arzac-Marcus.

The issue is important, so it is necessary that we resolve the conflict. Further, since utility executives and regulators, not financial economists, must make decisions in this area, the resolution must be understandable to these decision makers. After studying the problem, we concluded that the best way to approach a clear resolution is to set up some hypothetical, but reasonable, situations and then to test the alternative theories, asking the following question: What results do the several methods produce, and are those results fair to both consumers and investors?

Bonds and Preferred Stocks

Because the proper treatment of flotation costs on bonds and preferred stocks is well known and not controversial, it helps to begin by examining that treatment as a lead-in to the analysis of common stock. First, note that debt flotation costs can be recovered in either of two ways: (1) They can be expensed and recovered from customers during the year the securities are sold, or (2) They can be capitalized and recovered over the life of the securities. The second method, which is consistent with the theory that those customers who benefit from a cost should pay for it, is generally used. Under this theory, bond flotation expenses are reflected in the embedded cost of the bond and are recovered over the life of the bond. For example, if flotation costs of 5 per cent were incurred on a \$100 million, ten-year, 15 per cent coupon bond issue, they would be handled in the following manner by most federal and state regulators:

$$\text{Cost to company} = \frac{\text{Interest expense + Amortization of flotation costs}}{\text{Principal value} - \text{Unamortized flotation costs}} \qquad (1)$$

$$= \frac{\$15{,}000{,}000 + (\$5{,}000{,}000/10)}{\$100{,}000{,}000 - \$5{,}000{,}000}$$

$$= \frac{\$15{,}500{,}000}{\$95{,}000{,}000} = 16.3158\% \text{ for the first year}$$

Return requirements would be calculated as follows:

$$\text{Return requirements} = \text{Cost rate(Principal value} - \text{Unamortized flotation costs)} \qquad (2)$$

$$= 0.163158(\$100{,}000{,}000 - \$5{,}000{,}000)$$

$$= \$15{,}500{,}000.$$

In this example, the company received \$95 million of cash, which it used to purchase \$95 million of operating assets. To meet its interest expense and flotation amortization requirements, the company must have \$15.5 million in return dollars. This return will only be generated if the company earns 16.3158 per cent on its \$95 million of operating assets. Under this procedure, the percentage cost as calculated in Equation 1 declines each year, but the return dollar amount remains constant.[2]

[2]An alternative procedure that produces exactly the same result is to divide interest charges plus flotation amortization by the principal value of the issue, and then to multiply this cost rate by the principal value of the issue:

$$\text{Embedded cost rate} = \frac{\$15{,}500{,}000}{\$100{,}000{,}000} = 0.155 = 15.5\%.$$

$$\text{Return requirements} = 0.155(\$100{,}000{,}000) = \$15{,}500{,}000.$$

This procedure in effect includes both flotation costs and operating assets in the rate base.

Preferred stocks are handled similarly. Actually, utilities issue two types of preferred stocks, those with sinking funds and those that are perpetual. The adjustment formula for sinking fund preferred is exactly like that for bonds, but a difference arises in the case of perpetual preferreds. Perpetual preferred stock represents permanent capital; hence its flotation costs are not amortized.[3] Assuming again a \$100 million issue and a 5 per cent flotation cost, this formula applies:

$$\text{Cost to company} = \frac{\text{Dividend requirements}}{\text{Net proceeds}} = \frac{\$15{,}000{,}000}{\$95{,}000{,}000} \quad (3)$$

$$= 15.7895\%$$

Alternatively, we could write the formula as follows:

$$\text{Cost to company} = \frac{\text{Dividend rate}}{1.0 - \text{Flotation}} = \frac{15\%}{0.95} = 15.7895\% \quad (3a)$$

The return dollars can then be calculated as follows:[4]

$$\text{Dollars of return} = 0.157895(\$95{,}000{,}000) = \$15{,}000{,}000.$$

In this example, the preferred stockholders expect and require a return of 15 per cent on *their investment* (\$100 million), but the company must earn 15.7895 per cent on *its operating assets* (\$95 million) to provide this required return.[5] If the company earned only 15 per cent on the \$95 million, then the company would have after-tax revenues of only \$14,250,000 to meet investors' preferred dividend requirements of \$15 million. Obviously, then, the 15 per cent market value cost of preferred must be adjusted upward to a 15.7895 per cent return on the company's operating assets if investors are to receive the reasonable rate of return they contracted for.

Common Stock

From a conceptual standpoint, it has long been recognized that the situation with common stock is similar to that for bonds and preferred stocks: Issuance costs are incurred; they should not be and are not expensed at the time the stock is sold; and therefore recovery must occur in subsequent years. Further, just as with bonds and preferred stock, the authorized rate of return on rate base equity must be above the rate of return to the investor; that is, the cost to the utility is above the return to the investor. The standard textbook formula, which Patterson [6] used, is as follows:[6]

$$r = \frac{\text{Expected dividend yield}}{1.0 - F} + g \quad (5)$$

Here:

r = authorized rate of return on book equity, if stockholders are to earn their required rate of return, k,

F = percentage flotation cost associated with common stock offerings, and

g = the expected growth rate in earnings and dividends.

The percentage flotation factor, F, consists of two elements: (1) underwriting costs and (2) "market pressure," which is the decline in the stock price that results when the supply of shares is suddenly increased. Historically, utility underwriting expenses have averaged from 3 to 4 per cent of gross proceeds [9]. Market pressure varies over time, depending on the size of the issue, the condition of the market, and the degree to which investors were surprised by the announcement of the stock sale. Moreover, stock prices change for reasons other than new offerings, so it is difficult to obtain an exact measure of market pressure. However, several careful studies have been reported, and they indicate that market pressure is in the range of one to 3 per cent [10]. Thus, for most utilities, flotation expenses plus pressure have totaled about 5.5 per cent.

To illustrate the flotation cost adjustment process, and following Bierman and Hass for consistency, we assume that a new, start-up utility has the following characteristics:

1) Our hypothetical company can sell stock in the market at \$10 per share, and investors expect it to pay a dividend of one dollar and to grow at a rate of 5 per cent. Thus, its DCF cost of equity is $k = D/P + g = 10\% + 5\% = 15\%$, investors' required rate of return.
2) To raise initial capital, the company plans to sell an issue of stock, incurring flotation costs of F = 5 per cent.
3) Applying Equation 5, we obtain a flotation-adjusted cost of equity (r) of 15.5263 per cent:

$$r = \frac{\text{Expected dividend yield}}{1 - F} + g$$

$$= \frac{10.0\%}{0.95} + 5\%$$

$$= 10.5263\% + 5\% = 15.5263\%$$

Thus, the illustrative utility's fair rate of return on book equity according to Equation 5 is approximately 53 basis points above its 15 per cent unadjusted "bare bones DCF cost of equity."

4) The company will sell one share of stock and obtain net proceeds of \$9.50. This \$9.50 is also the initial book value, B, and rate base. (Obvi-

[3] In effect, the flotation costs of the preferred are amortized over an infinite period, which is to say the amortization per year is zero. Investors have made a *permanent* investment, so the original investors or those who purchase the stock in the secondary market must receive a return on that investment in perpetuity.

[4] Of course, preferred stock dividends are not deductible, so the total revenues required to produce the return dollars is higher for preferred stock than for debt.

[5] Note that the return dollars for the bond exceed those for the perpetual preferred stock – \$15.5 million versus \$15 million. However, these are first-year costs only. The bond's cost rate declines over time due to the amortization of its flotation costs, whereas the cost rate associated with the preferred stock remains constant, and the rates of return to the bondholders and the preferred stockholders are identical.

[6] This formula is developed in reference citation 5, Chapter 7, as well as in most other corporate finance textbooks.

ously, this amount, which we use for simplicity, could be scaled up without altering the conclusions.)

5) After its inception and initial stock offering, all of the company's equity is expected to come from retained earnings. In a later case, we will examine the situation when more stock is sold.
6) The company operates in a reasonable and prudent manner, such that by any fairness criteria, investors should be allowed to earn their 15 per cent cost of capital return, no more and no less. For simplicity, we also assume that regulation operates properly, without lags.
7) Initially, we assume that the market cost of capital remains constant at 15 per cent, and that the company maintains a constant payout ratio so as to keep the dividend yield and growth components at 10 per cent and 5 per cent, respectively. These assumptions are consistent with the DCF model, but later in the article we expand the analysis by relaxing both of them.

Now these questions may be asked:

Should the flotation adjustment be applied to all common equity or, once retained earnings appear on the balance sheet, only to common stock?
For how many years should an adjustment be applied: One, two, ten, twenty, or forever?

When we applied Equation 5, the textbook formula which Patterson recommended, we found that it produces results that satisfy the fairness criterion; namely, it permits investors to earn exactly their 15 per cent cost of capital, no more and no less. This result for our initial case is demonstrated in Table 1, which was produced by a simple computer model, and it is analyzed below:

Table 1

Case 1: Company Earns Flotation-adjusted Cost of Equity (r) on All Common Equity

Beginning of Year

Year	Common Stock (1)	Retained Earnings (2)	Total Equity (3)	Stock Price (4)	Market-Book Ratio (5)	EPS (6)	DPS (7)	Payout (8)
1	$9.50	$0.0000	$ 9.5000	$10.0000	1.0526x	$1.4750	$1.0000	67.7966%
2	9.50	0.4750	9.9750	10.5000	1.0526	1.5488	1.0500	67.7966
3	9.50	0.9738	10.4738	11.0250	1.0526	1.6262	1.1025	67.7966
4	9.50	1.4974	10.9974	11.5763	1.0526	1.7075	1.1576	67.7966
5	9.50	2.0473	11.5473	12.1551	1.0526	1.7929	1.2155	67.7966
6	9.50	2.6247	12.1247	12.7628	1.0526	1.8825	1.2763	67.7966
7	9.50	3.2309	12.7309	13.4010	1.0526	1.9766	1.3401	67.7966
8	9.50	3.8675	13.3675	14.0710	1.0526	2.0755	1.4071	67.7966
9	9.50	4.5358	14.0358	14.7746	1.0526	2.1792	1.4775	67.7966
10	9.50	5.2376	14.7376	15.5133	1.0526	2.2882	1.5513	67.7966

NOTES:
1) Assumptions made in this case are as follows:
 a) Issue price = $10
 b) Flotation cost = 5%
 c) k = D/P + g = 10% + 5% = 15%
 d) r = 15.5263%
2) The data in this case, and also the more complex cases, were developed with a Lotus 1-2-3 computer program.

1) The company's balance sheet item common stock is shown in Column 1.
2) Retained earnings are shown in Column 2. Initially, they are zero, but they build up over time.
3) Total equity as shown in Column 3 is the sum of common stock and retained earnings. Total equity grows as retained earnings build up.
4) Column 4 shows the stock price as determined by the basic DCF formula. It starts at $10 and grows at a rate of 5 per cent per year, which is necessary to produce the 5 per cent capital gains yield that investors expect and should receive.[7]
5) Column 5 shows the market-to-book (M/B) ratio. Notice that the M/B always exceeds one. The only way the M/B ratio could go to one would be for the stock price to fall below the value shown in Column 4, but if that were to happen, then investors would not receive the capital gains to which they are entitled. Thus, the M/B will exceed one if investors are being treated fairly.
6) Earnings per share (EPS) as shown in Column 6 is the product of total equity times 0.155263, the fair rate of return as determined by Equation 5.
7) Dividends per share (DPS) as shown in Column 7 begin at one dollar and grow at a rate of 5 per cent per year. This growth rate is a requirement if investors are to earn their DCF cost of capital.
8) The payout ratio is shown in Column 8. Under

[7]The DCF valuation equation is

$$P_0 = \frac{D_1}{k - g}$$

This equation, solved for k, produces the standard DCF cost of capital equation, $k = D_1/P_0 + g$. See reference citation 5, Chapter 5, for a derivation and discussion.

the assumptions of the standard DCF constant growth model, the payout must be constant, and it is if r as determined by Equation 5 is used as the allowed return on equity.

9) Note also that book value per share as shown in Column 3 is growing at a constant rate, 5 per cent. The retention growth rate, $g = br$, where r is the return on book equity and b is the fraction of earnings, is

$$g = br = (1.0 - 0.677966)(15.5263) = 0.322(15.5263) = 5.0\%,$$ just as it should be.

Case 1 proves that Equation 5 produces the desired results: namely, returns that exactly cover the cost of equity, no more and no less. Any return on book equity different from that established by Equation 5 would produce inconsistent results. For example, suppose the authorized rate of return were cut from 15.5263 to the DCF return, 15 per cent, in Year 2. This would cause the stock price to drop from $10.50 to the $9.9750 book value. Thus, stockholders would suffer a loss, and they would not obtain the capital gains yield to which they are entitled. Any other type of experimentation will show exactly the same thing: If the company is not allowed to earn the cost of equity as determined by Equation 5 on total common equity, stockholders will not receive a 15 per cent return on their invested capital.

Sale of Additional Equity

While the only-one-equity-sale conditions used to develop Case 1 are consistent with Bierman and Hass's example, and also with some actual companies such as Comsat and the Yankee Atomic Power companies, most utilities sell additional common stock from time to time. Therefore, we modified the computer model to analyze stock sales subsequent to the initial offering, and we report the results in Table 2 as Case 2, in which the company raises an additional share of new common equity for $12.1247 at the beginning of Year 6. (Note that the $12.1247 is calculated as the price of the stock at the beginning of Year 6 less flotation costs.) Earnings, dividends, and common equity all increase in Year 6 as a result of the sale, but investors continue to earn exactly 15 per cent on their investment so long as the company is allowed to earn 15.5263 per cent on its total book equity.

In Case 3, reported in Table 3, we present the results for a company that issues new equity at a flotation cost different from the cost of its original stock issue. Case 3 is similar to Case 2. Just as in Case 2, the company issues new equity at the beginning of Year 6. However, in Case 3, the equity sold at the beginning of Year 6 has a different flotation cost (3 per cent) from that of the original issue (5 per cent). With lower flotation costs, the company nets more common equity in Case 3 than in Case 2. (The dollar amount of new equity raised is calculated as the price of the share of stock at the beginning of Year 6 less the 3 per cent flotation costs incurred.)

In this example, because the new equity is sold at a different flotation cost than the old equity, a new value of r must be calculated and used to determine net income. The new r is a weighted average of r as determined by Equation 5 for each equity issue, with the weights being the fraction of total equity attributable to the new and old stock at the time the new stock is issued. Because of the lower flotation costs on the new equity, there is a corresponding drop in the market-to-book ratio in Year 6. Note, however, that after the transitional Year 6, earnings and dividends continue to grow at the required 5 per cent rate, which is neces-

Table 2

Case 2: Company Sells Additional Stock at the Beginning of Year 6

Beginning of Year

Year	Common Stock (1)	New Issue (1a)	Retained Earnings (2)	Total Equity (3)	Stock Price (4)	Market-Book Ratio (5)	EPS (6)	DPS (7)	Payout Ratio (8)
1	$ 9.50		$0.0000	$ 9.5000	$10.0000	1.0526x	$1.4750	$1.0000	67.7966%
2	9.50		0.4750	9.9750	10.5000	1.0526	1.5488	1.0500	67.7966
3	9.50		0.9738	10.4738	11.0250	1.0526	1.6262	1.1025	67.7966
4	9.50		1.4974	10.9974	11.5763	1.0526	1.7075	1.1576	67.7966
5	9.50		2.0473	11.5473	12.1551	1.0526	1.7929	1.2155	67.7966
6	9.50	$12.1247	2.6247	24.2493	12.7628	1.0526	1.8825	1.2763	67.7966
7	21.6247		3.8371	25.4618	13.4010	1.0526	1.9766	1.3401	67.7966
8	21.6247		5.1102	26.7349	14.0710	1.0526	2.0755	1.4071	67.7966
9	21.6247		6.4470	28.0717	14.7746	1.0526	2.1792	1.4775	67.7966
10	21.6247		7.8506	29.4752	15.5133	1.0526	2.2882	1.5513	67.7966

NOTES:
Assumptions made in this case are as follows:
a) Original issue price = $10
b) Flotation cost = 5%
c) $k = D/P + g = 10\% + 5\% = 15\%$
d) $r = 15.5263\%$
e) Year 6 issue price = $12.7628
f) Year 6 new common stock = $12.7628(1 − F)
= $12.7628(0.95)
= $12.1247

Table 3

Case 3: Company Sells Additional Stock at the Beginning of Year 6 Incurring Different Flotation Costs

Beginning of Year

Year	Common Stock (1)	New Issue (1a)	Retained Earnings (2)	Total Equity (3)	Stock Price (4)	Market-Book Ratio (5)	EPS (6)	DPS (7)	Payout Ratio (8)
1	$ 9.5000		$0.0000	$ 9.5000	$10.0000	1.0526x	$1.4750	$1.0000	67.7966%
2	9.5000		0.4750	9.9750	10.5000	1.0526	1.5488	1.0500	67.7966
3	9.5000		0.9738	10.4738	11.0250	1.0526	1.6262	1.1025	67.7966
4	9.5000		1.4974	10.9974	11.5763	1.0526	1.7075	1.1576	67.7966
5	9.5000		2.0473	11.5473	12.1551	1.0526	1.7929	1.2155	67.7966
6	9.5000	$12.3799	2.6247	24.5046	12.7628	1.0526	1.8889	1.2763	67.7566
7	21.8799		3.8499	25.7298	13.4010	1.0526	1.9833	1.3401	67.5676
8	21.8799		5.1364	27.0163	14.0710	1.0526	2.0825	1.4071	67.5676
9	21.8799		6.4872	28.3671	14.7746	1.0526	2.1866	1.4775	67.5676
10	21.8799		7.9056	29.7855	15.5133	1.0526	2.2960	1.5513	67.5676

NOTES:
Assumptions made in this case are as follows:
a) Original issue price = $10
b) Year 1 Flotation cost = 5%
c) $k = D/P + g = 10\% + 5\% = 15\%$
d) $r_1 = 15.5263\%$
e) Year 6 issue price = $12.7628
f) Year 6 flotation cost = 3%
g) Year 6 new common stock = $12.7628(1 − F)
= $12.7628(0.97)
= $12.3799
h) Additional issue $r = 15.3093\%$

sary if investors are to receive the 15 per cent DCF return on their investment. The stock price grows at 5 per cent throughout the ten-year period.

The fact that the company must continue to earn the flotation-adjusted cost of equity, even as retained earnings build up to a larger and larger proportion of total common equity, is counterintuitive, and so it deserves further discussion. Here are two comments:

1) *Demonstration that a weighted average cost rate is inappropriate.* It has been suggested that the authorized return on equity should be a weighted average of the flotation-adjusted cost rate, $r = 15.5263$ per cent, and the DCF cost rate, $k = 15$ per cent, with the weights being based on common equity and accumulated retained earnings, respectively. When we programmed our model to reflect these conditions, we obtained the results shown in Table 4. A problem obviously exists – if dividends are to grow at the 5 per cent rate that investors expect, and if earnings are based on a weighted average of k and r, then a higher and higher percentage of earnings will have to paid out. Thus, the payout ratio will rise. In Year 34 the payout ratio will exceed 100 per cent, so retained earnings will start to decline. Retained earnings actually go negative in Year 45, and Total Common Equity goes negative in Year 46, which means the company is officially bankrupt. This example demonstrates, in yet another way, that the flotation-adjusted cost of equity must be earned on all common equity if investors are to receive the DCF return to which they are entitled under prudent management. The example also demonstrates that, if investors were informed that the regulatory treatment implied in Table 4 were going to be employed, they would not invest in the company in the first place.

2) *Logical explanation.* To understand *why* the Equation 5 value must be applied to all common equity, retained earnings as well as equity raised by selling stock, one must trace through the valuation process. Notice that, in Year 1, investors require a return of 15 per cent on their $10 investment, or $1.50. However, the company earns only $1.4750, of which it pays out one dollar as a dividend and retains 47.5 cents. To give the investor the fifty-cent increase in market value (or capital gain) needed to add to the one dollar dividend to produce the $1.50, or 15 per cent, total DCF return, the 47.5 cents must earn more than 15 per cent. Specifically, it must earn the flotation adjusted cost of equity, $r = 15.5263$ per cent. This same thought process can be continued in other years, ad infinitum, and the ultimate conclusion is that both the original common equity and all retained earnings must earn $r = 15.5263$ per cent.

If the preceding paragraph is not clear, we can put it another way. The investor expects and is entitled to earn, under prudent management, a return of 15 per cent on his or her investment. Thus, dividends plus capital gains must total 15 per cent, or $1.50 in the first year. Ten per cent, or one dollar, will come from dividends, so 5 per cent, or 50 cents, must come from capital gains. To obtain a capital gain yield of 50 cents from 47.5 cents of retained earnings, the retained earnings must earn a return greater than $k = 15$ per cent; specifically, the retained earnings must be allowed to earn $r = 15.5263$ per cent. (If the 47.5 cents earned 15 per cent, then it would be worth exactly 47.5 cents, not 50 cents.) In Year 2, retained earnings will rise by

5 per cent from 47.5 cents to 49.875 cents; the capital gains then must rise from 50 cents to .50(1.05) = 52.5 cents; the only way this can happen is for the second-year retained earnings to be allowed to earn r = 15.5263 per cent; and so on.

The Effect of the Payout Ratio on the Flotation Cost Adjustment

Even though fair regulation requires that retained earnings be allowed to earn the flotation adjusted cost of equity, the level of retained earnings as affected by the payout ratio does have a material effect on the size of the adjustment.

To illustrate this point, assume (1) that two utilities both have a 15 per cent market cost of equity, that is, k = 15 per cent; (2) that both companies sell at a price of $20; but (3) that one company has a policy of paying out 25 per cent of its earnings and retaining 75 per cent, while the other has the reverse dividend policy. Assume further that both companies earn 15 per cent on their $20 market value, so earnings per share are .15($20) = $3. The high payout company has a dividend of .75($3) = $2.25, while the low payout company has a dividend of .25($3) = 75 cents. At the same time, the low payout company, which plows most of its earnings back into the business, will have a growth rate of g = .75(15 per cent) = 11.25 per cent, while the high payout company will have g = .25(15 per cent) = 3.75 per cent.

Under these conditions, the following situation would exist for the two illustrative companies:

Low payout Company:
$$k = \frac{D_1}{P_0} + g = \frac{\$0.75}{\$20} + 11.25\%$$
$$= 3.75\% + 11.25\% = 15\%$$

High payout Company:
$$k = \frac{D_1}{P_0} + g = \frac{\$2.25}{\$20} + 3.75\%$$
$$= 11.25\% + 3.75\% = 15\%$$

Applying the adjustment formula,

$$r = \frac{\text{Expected dividend yield}}{1 - F} + g,$$

we find this situation, assuming that issuance costs are 5 per cent:

High payout Company:
$$r = \frac{11.25\%}{0.95} + 3.75\%$$
$$= 11.842\% + 3.75\% = 15.592\%$$

Low payout Company:
$$r = \frac{3.75\%}{0.95} + 11.25\%$$
$$= 3.947 + 11.25\% = 15.197\%$$
$$\text{Difference} = 0.395\%$$

Thus, we see that the company which retains most of its earnings, and which consequently has more retained

Table 4

Case 4: Company Earns Weighted Average k

Year	Common Stock (1)	Retained Earnings (2)	Total Equity (3)	EPS (4)	DPS (5)	Payout Rate (6)	Weighted k (7)
1	$9.5000	$ 0.0000	$ 9.5000	$1.4750	$1 0000	67.7966%	0.1553
2	9.5000	0.4750	9.9750	1.5463	1.0500	67.9062	0.1550
3	9.5000	0.9713	10.4713	1.6207	1.1025	68.0267	0.1548
4	9.5000	1.4894	10.9894	1.6984	1.1576	68.1591	0.1545
5	9.5000	2.0302	11.5302	1.7795	1.2155	68.3047	0.1543
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
33	9.5000	23.2219	32.7219	4.9583	4.7649	96.1006	0.1515
34	9.5000	23.4152	32.9152	4.9873	5.0032	100.3188	0.1515
35	9.5000	23.3993	32.8993	4.9849	5.2533	105.3852	0.1515
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
45	9.5000	−2.3443	7.1557	1.1234	8.2791	736.9935	0.1570
46	The company goes bankrupt.						

NOTES:
1) Assumptions made in this case are as follows:
   a) Issue price = $10
   b) Flotation cost = 5%
   c) k = D/P + g = 10% + 5% = 15%
   d) r = 15.5263%
2) The dividend in Year 45 cannot grow by the 5 per cent growth rate, because if it did total equity would become negative. Therefore, the Year 45 dividend is calculated as the remaining portion of total equity + earnings in Year 45: $7.1557 + $1.1234 = $8.2791.

Table 5

Case 5: Company Sells Additional Stock and k Changes

Beginning of Year

Year	Common Stock (1)	New Issue (1a)	Retained Earnings (2)	Total Equity (3)	Stock Price (4)	Market-Book Ratio (5)	EPS (6)	DPS (7)	Payout Ratio (8)
1	$ 9.5000		$0.0000	$ 9.5000	$10.0000	1.0526x	$1.4750	$1.0000	67.7966%
2	9.5000		0.4750	9.9750	10.5000	1.0526	1.5488	1.0500	67.7966
3	9.5000		0.9738	10.4738	11.0250	1.0526	1.6262	1.1025	67.7966
4	9.5000		1.4974	10.9974	11.5763	1.0526	1.7075	1.1576	67.7966
5	9.5000		2.0473	11.5473	12.1551	1.0526	1.7929	1.2155	67.7966
6	9.5000	$12.3799	2.6247	24.5046	12.7628	1.0526	1.8889	1.2763	67.5676
7	21.8799		3.8499	25.7298	13.4010	1.0526	1.9833	1.3401	67.5676
8	21.8799		5.1364	27.0163	14.0710	1.0526	1.8123	1.4071	77.6398
9	21.8799		5.9469	27.8268	14.4931	1.0526	1.8667	1.4493	77.6398
10	21.8799		6.7817	28.6616	14.9279	1.0526	1.9227	1.4928	77.6398

NOTES:
Assumptions made in this case are as follows:
a) Original issue price = $10
b) Year 1 flotation cost = 5%
c) Issue 1 r = 15.5263%
d) Year 6 issue price = $12.7628
e) Year 6 flotation cost = 3%
f) Year 6 new common stock = $12.7628(1 − F)
= $12.7628(0.97)
= $12.3799
g) Additional issue r = 15.3093%
h) Years 1-7, k = D/P + g = 10% + 5% = 15%
i) Years 8-10, k = D/P + g = 10% + 3% = 13%

Table 6

Case 6: Company Sells Additional Stock and k Changes

Beginning of Year

Year	Common Stock (1)	New Issue (1a)	Retained Earnings (2)	Total Equity (3)	Stock Price (4)	Market-Book Ratio (5)	EPS (6)	DPS (7)	Payout Ratio (8)
1	$ 9.5000		$0.0000	$ 9.5000	$10.0000	1.0526x	$1.4750	$1.0000	67.7966%
2	9.5000		0.4750	9.9750	10.5000	1.0526	1.5488	1.0500	67.7966
3	9.5000		0.9738	10.4738	11.0250	1.0526	1.6262	1.1025	67.7966
4	9.5000		1.4974	10.9974	11.5763	1.0526	1.7075	1.1576	67.7966
5	9.5000		2.0473	11.5473	12.1551	1.0526	1.7929	1.2155	67.7966
6	9.5000	$12.3799	2.6247	24.5046	12.7628	1.0526	1.8889	1.2763	67.5676
7	21.8799		3.8499	25.7298	13.4010	1.0526	1.9833	1.3401	67.5676
8	21.8799		5.1364	27.0163	14.0710	1.0526	1.8011	1.1257	62.5000
9	21.8799		5.9469	27.3671	14.7746	1.0526	1.8911	1.1820	62.5000
10	21.8799		6.7817	29.7855	15.5133	1.0526	1.9857	1.2411	62.5000

NOTES:
Assumptions made in this case are as follows:
a) Original issue price = $10
b) Year 1 flotation cost = 5%
c) Issue 1 r = 15.5263%
d) Year 6 issue price = $12.7628
e) Year 6 flotation cost = 3%
f) Year 6 new common stock = $12.7628(1 − F)
= $12.7628(0.97)
= $12.3799
g) Additional issue r = 15.3093%
h) Years 1-7, k = D/P + g = 10% + 5% = 15%
i) Years 8-10, k = D/P + g = 10% + 3% = 13%

earnings and a smaller dollar amount of flotation costs, also has the lower flotation-adjusted cost of equity. This demonstrates that the issuance cost adjustment formula is itself adjusted to reflect the extent to which a company finances by retaining earnings rather than by selling new common stock.

Changes in the DCF Cost of Equity

We also analyzed the effects of changes in the DCF cost of equity over time. While a change in the DCF k causes a change in earnings, dividends, and the growth rate, the flotation adjustment *process* is not affected – Equation 5 still produces a fair rate of return on book value. This is demonstrated in Tables 5 and 6. It should be noted that the effects of the adjustment as derived by Equation 5 do vary with the level of the DCF cost and with the split between dividend yield and growth. In Case 5, we analyze the effects of a change in the growth rate with the dividend yield held constant, while in Case 6, reversing them, we analyze the effects of a change in the dividend yield with the growth rate held constant. Both cases use Case 3 as their base case. In each instance, a new value for r, based on Equation 5, can be established, and this return on book value permits investors to earn their new DCF cost of equity.

Capitalizing Flotation Costs

Bierman and Hass, almost as an afterthought toward the end of their article, suggested that utilities should be allowed to record the *gross amount* of equity sales and to earn a DCF return on gross equity capital. This would amount to capitalizing flotation costs. These capitalized costs could then be amortized over some prescribed period or else be kept on the books indefinitely.

To show this, we set up computer models using our various cases but capitalizing flotation costs. One can see that earnings, dividends, and stock prices are all exactly like those shown in our tables. Thus, capitalizing flotation costs produces exactly the same results as Equation 5.

Capitalizing flotation costs has much to recommend it, for it would eliminate the confusion that has existed. However, a fundamental problem exists for any company that has incurred flotation costs in the past, that is, for virtually the entire utility industry: How would the fact that past flotation costs were not capitalized be dealt with? In other words, capitalizing flotation costs would be an excellent procedure for a new, start-up, company, but such a plan would not be feasible for an existing company without somehow adjusting for past costs. Such an adjustment could be made, but a discussion of it goes beyond the scope of this article.

Conclusion

The proper treatment of equity flotation costs has caused much confusion. Had such costs been either capitalized in the past or else expensed on an as-incurred basis, there would be no problem, but since neither of these practices has generally been followed, the DCF return must be adjusted to produce a fair rate of return on book equity.

Further, the adjustment is always required, irrespective of whether or not a company has plans to sell new stock in the future, and the adjusted return must be earned on total equity, including retained earnings. Otherwise, it would be impossible for investors to earn the cost of equity, even under prudent and efficient management.

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NEW REGULATORY FINANCE

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2006
PUBLIC UTILITIES REPORTS, INC.
Vienna, Virginia

Alternative Sources of Equity

A second controversy is whether a flotation cost allowance should be allowed because a company can always obtain equity from sources other than a public issue of common stock, such as a rights issue for example. There are several sources of equity capital available to a firm, including: public common stock issues, conversions of convertible preferred stock, dividend reinvestment plans, employees' savings plans, warrants, and stock dividend programs. Each carries its own set of administrative costs and flotation cost components, including discounts, commissions, corporate expenses, offering spread, and market pressure.

Equity capital raised through a public issue is typically more expensive than alternate sources of equity. Rights issues, when available, are less expensive, but direct costs still would be incurred. Of course, a rights issue assumes that a willing underwriter and a willing market could be found for such offerings in the first place, an unlikely event in public capital markets for small unproven companies. Internal sources of equity, including dividend reinvestment and/ or employee stock option plans, are also typically less expensive, unless a discount on the purchase price is inherent in the plan, in which case they are often equivalent to a public issue. Direct costs are also incurred in an employee stock savings plan and/or a shareholder dividend reinvestment plan.

The flotation cost allowance is still warranted, however, because it is a composite factor that reflects the historical mix of all these sources of equity. The flotation cost allowance applicable to all the company's book equity is actually a weighted average of the current allowances required for each past financing, that is, the flotation cost allowance factor is a build-up of historical flotation cost adjustments associated and traceable to each component of equity source. However, it is impractical and prohibitive to start from the inception of a company and source all present equity from various equity vintages and types of equity capital raised by the company. One way of circumventing the problem of vintaging each form of equity is to source book equity by broad categories of equity, such as dividend reinvestment plan equity, stock option equity, and public issue equity, and calculate a weighted average flotation factor. That is also onerous and cumbersome. A practical solution is to rely on the results of the empirical studies discussed earlier that quantify the average flotation cost factor of a large sample of utility stock offerings.

Efficient Markets

A third controversy centers around the argument that the omission of flotation cost is justified on the grounds that, in an efficient market, the stock price already reflects any accretion or dilution resulting from new issuances of securities and that a flotation cost adjustment results in a double counting effect. The simple fact of the matter is that whatever stock price is set by the market, the company issuing stock will always net an amount less than the stock price due to the presence of intermediation and flotation costs. As a result, the company must earn slightly more on its reduced rate base in order to produce a return equal to that required by shareholders.

Existing shareholders are made worse off when a company issues new stock below the market price, irrespective of how "efficient" that stock price may be. As seen in an earlier example, the new issue results in a transfer of wealth from existing to new shareholders. This is true regardless of the degree of efficiency of the market.

It has also been argued that a flotation cost allowance is inequitable since it results in a windfall gain to shareholders. This argument is erroneous. As stated previously, the company's common equity account is credited by an amount less than the market value of the issue, so that the company must earn slightly more on its reduced rate base in order to produce a return equal to that required by shareholders. Moreover, existing shareholders are made worse off when a company issues new stock below the market price.

The suggestion that the flotation cost allowance is unwarranted because investors factor this shortcoming in the stock price implies that it is appropriate to use a deficient model because such a deficiency is reflected in stock prices. In other words, it is appropriate to use a deficient model because investors are aware of this. Such circular reasoning could be used to justify any regulatory policy. For example, under this reasoning, it would be appropriate to authorize a return on equity of 1% because investors reflect this fact in the stock price. This is clearly illogical and erroneous. Any regulatory policy, as irrational as it may be, can be justified using this argument.

Absence of Imminent Stock Issues

Another controversy is whether the flotation cost allowance should still be applied when the utility is not contemplating an imminent common stock issue. Some argue that flotation costs are real and should be recognized in calculating the fair return on equity, but only at the time when the expenses are incurred. In other words, the flotation cost allowance should not continue indefinitely, but should be made in the year in which the sale of securities occurs, with no need for continuing compensation in future years. This argument implies that the company has already been compensated for these costs and/or the initial contributed capital was obtained freely, devoid of any flotation costs, which is an unlikely assumption, and certainly not applicable to most utilities. If the flotation costs of past stock issues have been fully recovered, the argument has merit. If that assumption is not met, the argument is without merit. The flotation cost adjustment cannot be strictly forward-looking unless all past flotation costs associated with past issues have been recovered.

NORTH-HOLLAND
The Quarterly Review of Economics and Finance
43 (2003) 578–582
The QUARTERLY REVIEW of ECONOMICS And FINANCE

Short communication

Utility stocks and the size effect—revisited

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Received 7 January 2002; received in revised form 27 August 2002; accepted 29 August 2002

Abstract

Wong concluded there is weak empirical support that firm size is a missing factor from the capital asset pricing model for industrial stocks but not for utility stocks. Her weak results, however, do not rule out the possibility of a small firm effect for utilities. The issue she addressed has important financial implications in regulated proceedings that set rates of return for utilities. New studies based on different size water utilities are presented that do support a small firm effect in the utility industry.

Keywords: Utility stocks; Beta risk; Firm size

Annie Wong concludes there is some weak evidence that firm size is a missing factor from the capital asset pricing model ("CAPM") for industrial stocks but not for utility stocks (Wong, 1993, p. 98). This "firm size effect" is an observation that small firms tend to earn higher returns than larger firms after controlling for differences in estimates of beta risk in the CAPM. Wong notes that if the size effect exists, it has important implications and should be considered by regulators when they determine fair rates of return for public utilities. This paper re-examines the basis for her conclusions and presents new information that indicates there is a small firm effect in the utility sector.

1. Reconsideration of the evidence provided by Wong

Wong relies on Barry and Brown (1984) and Brauer (1986) to suggest the small firm effect may be explained by differences in information available to investors of small and large firms.

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PII: S1062-9769(02)00172-2

She states that requirements to file reports and information generated during regulatory proceedings indicate the same amount of information is available for large and small utilities and thus, if the differential information hypothesis explains the small firm effect, then the uniformity of information available among utility firms would suggest the size effect should not be observed in the utility industry. But contrary to the facts she assumes, there are differences in information available for large and small utilities. More parties participate in proceedings for large utilities and thus generate more information. Also, in some jurisdictions smaller utilities are not required to file all of the information that is required of larger firms. Thus, if the small firm effect is explained by differential information, contrary to Wong's hypothesis, differences in available information suggests there is a small firm effect in the utility industry. Wong did not discuss other potential explanations of the small firm effect for utilities.[2]

Wong's empirical results are not strong enough to conclude that beta risks of utilities are unrelated to size. In the period 1963–1967, when monthly data were used to estimate betas, her estimates of utility betas as well as industrial betas increased as the size of the firms decreased, but she did not find the same inverse relationship between size and beta risk for utilities in other periods. Being unable to demonstrate a relationship between size and beta in other periods may be the result of Wong using monthly, weekly and daily data to make those beta estimates. Roll (1980) concluded trading infrequency seems to be a powerful cause of bias in beta risk estimates when time intervals of a month or less are used to estimate betas for small stocks. When a small stock is thinly traded, its stock price does not reflect the movement of the market, which drives down the apparent covariance with the market and creates an artificially low beta estimate.

Ibbotson Associates (2002) found that when annual data are used to estimate betas, beta estimates for the smaller firms increase more than beta estimates for larger firms. Table 1 compares Value Line (2000) beta estimates for three relatively small water utilities that are made with weekly data and an adjusted beta estimated with pooled annual data for the utilities for the 5-year period ending in December 2000. In making the latter estimate, it is assumed that the underlying beta for each of water utilities is the same. The *t*-statistics for the unadjusted beta

Table 1
Beta estimates reported by Value Line and estimated with pooled annual returns for relatively small water utilities

	Value Line[a]	Estimated with annual data[b]
Connecticut Water Service	0.45	
Middlesex Water	0.45	
SJW Corporation	0.50	
Average	0.47	0.78
t-statistic		2.72[c,d]

[a] As reported in Value Line (2000). Betas estimated with 5 years of weekly data.

[b] Estimated with pooled annual return premiums for the 5-year period ending December 2000. Proxy market returns are total returns for the S&P 500 index. Dummy variable in 1999 to reflect the proposed acquisition of SJW Corporation included in analysis.

[c] Significant at the 95% level.

[d] The *t*-statistic for the null hypothesis that the true beta is 0.18 (the derived unadjusted Value Line beta) when the estimated betas is 0.65 (the unadjusted estimated beta) is 1.97. It is significant at the 95% level.

estimate is reported in parentheses. As was found by Ibbotson Associates (2002) for stocks in general, when annual data are used to estimate betas for small utility stocks, the beta estimate increases.

Wong used the Fama and MacBeth (1973) approach to estimate how well firm size and beta explain future returns in four periods. She reports weak empirical results for both the industrial and utility sectors. In every one of the statistical results reported for utilities, the coefficient for the size effect has a negative sign as would be expected if there is a size effect in the utility industry but only one of the results was found to be statistically significant at the 5% level. With the industrial sector, though she found two cases to have a significant size effect, a negative sign for the size coefficient occurred only 75% of the time. What is puzzling is that with these weak results, Wong concludes the analysis provides support for the small firm effect for the industrial industry but no support for a small firm effect for the utility industry.

2. New evidence on risk premiums required by small utilities

Two other studies support a conclusion that small utilities are more risky than larger ones. A study made by Staff of the Water Utilities Branch of the California Public Utilities Commission Advisory and Compliance Division (CPUC Staff, 1991) used proxies for beta risk and determined small water utilities were more risky than larger water utilities. Part of the difficulty with examining the question of relative risk of utilities is that the very small utilities are not publicly-traded. This CPUC Staff study addressed that concern by computing proxies for beta risk estimated with accounting data for the period 1981–1991 for 58 water utilities. Based on that analysis, CPUC Staff concluded that smaller water utilities were more risky and required higher equity returns than larger water utilities. Following 8 days of hearings and testimony by 21 witnesses regarding this study, it was adopted by the California Public Utilities Commission in CPUC Decision 92-03-093, dated March 31, 1992.

Table 2 provides the results of another study of differences in required returns estimated from discounted cash flow ("DCF") model estimates of the costs of equity for water utilities of different sizes. The study compares average estimates of equity costs for two smaller water utilities, Dominguez Water Company and SJW Corporation, with equity cost estimates for two larger companies, California Water Service and American States Water, for the period 1987–1997. All four utilities operated primarily in the same regulatory jurisdiction during that period. Estimates of future growth are required to make DCF estimates. Gordon, Gordon, and Gould (1989) found that a consensus of analysts' forecasts of earnings per share for the next 5 years provides a more accurate estimate of growth required in the DCF model than three different historical measures of growth. Unfortunately, such analysts' forecasts are not generally available for small utilities and thus this study assumes, as was assumed by staff at the regulatory commission, that investors relied upon past measures of growth to forecast the future. The results in Table 2 show that the smaller water utilities had a cost of equity that, on average, was 99 basis points higher than the average cost of equity for the larger water utilities. This result is statistically significant at the 90% level. In terms of the issues being addressed by Wong, the 99 basis points could be the result of differences in beta risk, the small firm effect or some combination of the two.

Table 2
Small firm equity cost differential: case study based on a comparison of DCF equity cost estimates for larger and smaller California water utilities (1987–1997)

	Larger water utilities[a]			Smaller water utilities[b]			Smaller utilities minus larger utilities
	D_0/P_0 (%)	Estimated growth (%)[c]	Equity cost estimate (%)[d]	D_0/P_0 (%)	Estimated growth (%)[c]	Equity cost estimate (%)[d]	
1987	6.60	7.17	14.24	5.38	10.06	15.98	1.74
1988	6.75	6.30	13.48	5.81	9.08	15.42	1.94
1989	7.10	6.30	13.84	6.47	7.00	13.93	0.09
1990	7.24	6.19	13.87	6.96	7.51	14.99	1.11
1991	6.94	6.29	13.67	6.64	6.24	13.30	−0.36
1992	6.18	5.96	12.50	6.50	6.71	13.65	1.14
1993	5.32	5.68	11.30	5.49	6.31	12.15	0.85
1994	6.03	4.40	10.70	5.80	4.86	10.94	0.25
1995	6.44	3.86	10.55	6.44	4.88	11.64	1.09
1996	5.60	4.06	9.88	5.77	5.58	11.67	1.79
1997	4.93	3.31	8.40	4.52	4.89	9.64	1.23
Averarage difference							0.99
t-statistic							1.405[e]

Limited to period for which Dominguez Water Company data were available. 1998 excluded due to pending buyout.
[a] American States Water and California Water Service.
[b] Dominguez Water Company and SJW Corporation.
[c] Average of 5- and 10-year dividends per share growth, 10-year earnings per share growth and estimates of sustainable growth from internal and external sources for the most recent 10-year period when data are available (1991–1997), otherwise most recent 5-year period (1987–1990).
[d] DCF equity cost as computed by California PUC staff: $k = (D_0/P_0) \times (1 + g) + g$.
[e] Significant at the 90% level.

3. Concluding remarks

Wong's concluding remarks should be re-examined and placed in perspective. She noted that industrial betas tend to decrease with increases in firm size but the same relationship is not found in every period for utilities. Had longer time intervals been used to estimated betas, as was done in Table 1, she may have found the same inverse relationship between size and beta risk for utilities in other periods. She also concludes "there is some weak evidence that firm size is a missing factor from the CAPM for the industrial but not the utility stocks" (Wong, 1993, p. 98), but the weak evidence provides little support for a small firm effect existing or not existing in either the industrial or utility sector. Two other studies discussed here support a conclusion that smaller water utility stocks are more risky than larger ones. To the extent that water utilities are representative of all utilities, there is support for smaller utilities being more risky than larger ones.

Notes

1. Vice President.
2. The small firm effect could also be a proxy for numerous other omitted risk differences between large and small utilities. An obvious candidate is differentials in access to financial markets created by size. Some very small utilities are unable to borrow money without backing of the owner. Other small utilities are limited to private placements of debt and have no access to the more liquid financial markets available to larger utilities.

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US Regulated Utilities

Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles

The credit profiles of US regulated utilities will remain intact over the next few years despite our expectation that regulators will continue to trim the sector's profitability by lowering its authorized returns on equity (ROE). Persistently low interest rates and a comprehensive suite of cost recovery mechanisms ensure a low business risk profile for utilities, prompting regulators to scrutinise their profitability, which is defined as the ratio of net income to book equity. We view cash flow measures as a more important rating driver than authorized ROEs, and we note that regulators can lower authorized ROEs without hurting cash flow, for instance by targeting depreciation, or through special rate structures. Regulators can also adjust a utility's equity capitalization in its rate base. All else being equal, we think most utilities would prefer a thicker equity base and a lower authorized ROE over a small equity layer and a high authorized ROE.

» **More timely cost recovery helps offset falling ROEs**. Regulators continue to permit a robust suite of mechanisms that enable utilities to recoup prudently incurred operating costs, including capital investments such as environment related or infrastructure hardening expenditures. Strong cost recovery is credit positive because it ensures a stable financial profile. Despite lower authorized ROEs, we see the sector maintaining a ratio of Funds From Operations (FFO) to debt near 20%, a level that continues to support strong investment-grade ratings.

» **Utilities' cash flow is somewhat insulated from lower ROEs**. Net income represents about 30% - 40% of utilities' cash flow, so lower authorized returns won't necessarily affect cash flow or key financial credit ratios, especially when the denominator (equity) is rising. Regulators set the equity layer when capitalizing rate base, and the equity layer multiplied by the authorized ROE drives the annual revenue requirements. Across the sector, the ratio of equity to total assets has remained flat in the 30% range since 2007.

» **Utilities' actual financial performance remains stable**. Earned ROEs, which typically lag authorized ROEs, have not fallen as much as authorized returns in recent years. Since 2007, vertically integrated utilities, transmission and distribution only utilities, and natural gas local distribution companies have maintained steady earned ROE's in the 9% - 10% range. Holding companies with primarily regulated businesses also earned ROEs of around 9% - 10%, while returns for holding companies with diversified operations, namely unregulated generation, have fallen from 11% (over the past seven year average) to around 9% today.

Robust Suite of Cost Recovery Mechanisms Is Credit Positive

Over the past few years, the US regulatory environment has been very supportive of utilities. We think this is partly because regulators acknowledge that utility infrastructure needs a material amount of ongoing investment for maintenance, refurbishment and renovation. Utilities have also been able to garner support from both politicians and regulators for prudent investment in these critical assets because it helps create jobs, spurring economic growth. We also think regulators prefer to regulate financially healthy utilities.

Across the US, we continue to see regulators approving mechanisms that allow for more timely recovery of costs, a material credit positive. These mechanisms, which keep utilities' business risk profile low compared to most industrial corporate sectors, include: formulaic rate structures; special purpose trackers or riders; decoupling programs (which delink volumes from revenue); the use of future test years or other pre-approval arrangements. We also see a sustained increase in the frequency of rate case filings.

A supportive regulatory environment translates into a more transparent and stable financial profile, which in turn results in reasonably unfettered access to capital markets - for both debt and equity. Today, we think utilities enjoy an attractive set of market conditions that will remain in place over the next few years. By themselves, neither a slow (but steady) decline in authorized profitability, nor a material revision in equity market valuation multiples, will derail the stable credit profile of US regulated utilities.

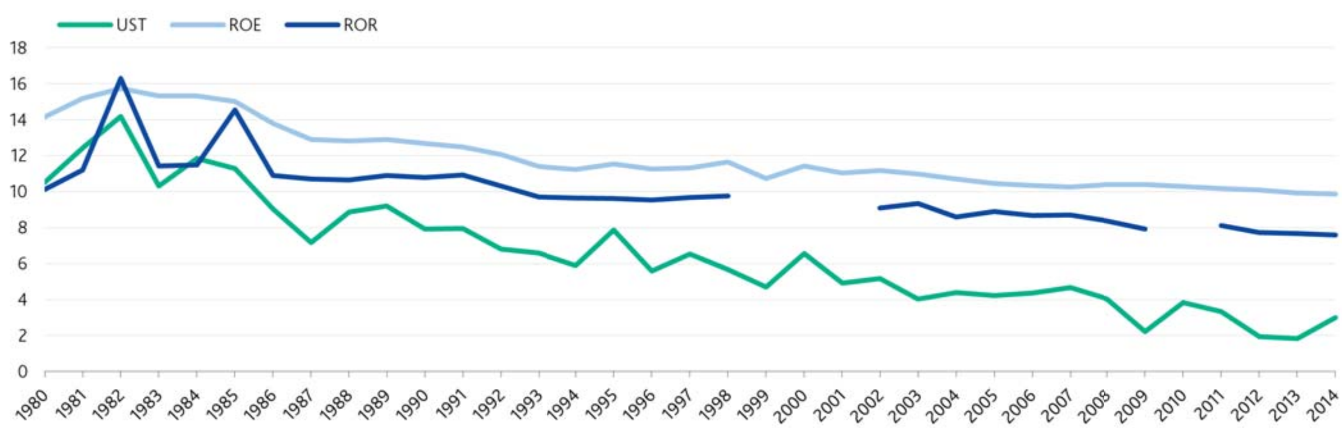
Cost recovery will help offset falling ROEs

Robust cost recovery mechanisms will help ensure that US regulated utilities' credit quality remains intact over the next few years. As a result, falling authorized ROEs are not a material credit driver at this time, but rather reflect regulators' struggle to justify the cost of capital gap between the industry's authorized ROEs and persistently low interest rates. We also see utilities struggling to defend this gap, while at the same time recovering the vast majority of their costs and investments through a variety of rate mechanisms.

In the table below, we show the US Treasury 10-year yield, which has steadily fallen from the 5% range in the summer of 2007 to the 2% range today. US utilities benefit from these lower interest rates because they borrow approximately $50 billion a year. For some utilities, a lower cost of debt translates directly into a higher return on equity, as long as their rate structure includes an embedded weighted average cost of capital (and the utilities can stay out of a general rate case proceeding).

Exhibit 1

Regulators hold up their end of the bargain by limiting reduction in return on equity (ROE) and overall rate of return (ROR) when compared with the decline in US Treasury 10-year yields



SOURCE: SNL Financial, LP, Moody's

As utilities increasingly secure more up-front assurance for cost recovery in their rate proceedings, we think regulators will increasingly view the sector as less risky. The combination of low capital costs, high equity market valuation multiples (which are better than or on par with the broader market despite the regulated utilities' low risk profile), and a transparent assurance of cost recovery tend to support the case for lower authorized returns, although because utilities will argue they should rise, or at least stay unchanged.

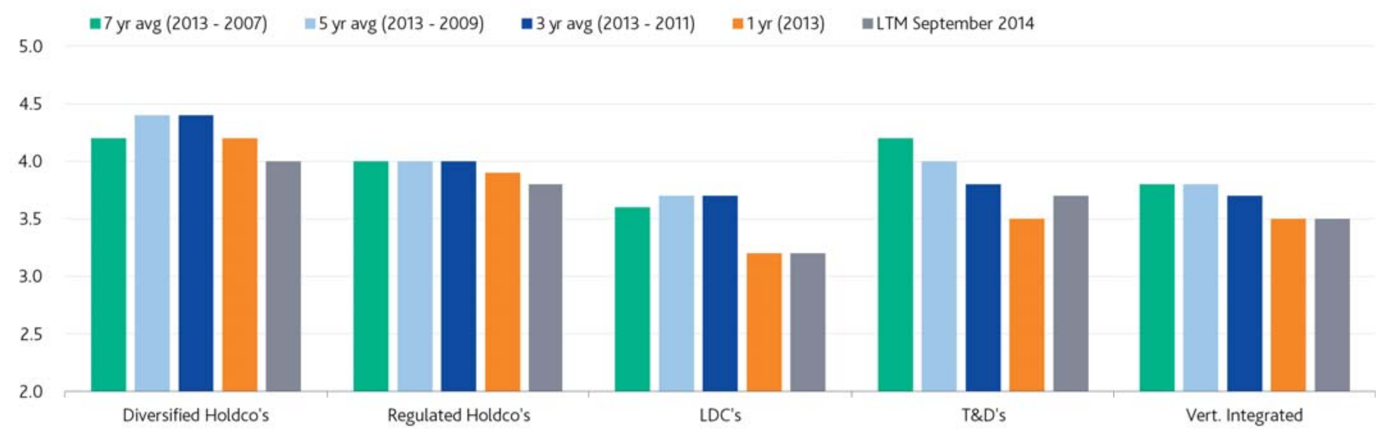
One of the arguments for keeping authorized ROEs steady is that lowering them would make utilities less attractive to providers of capital. Utility holding companies assert that they would rather invest in higher risk-adjusted opportunities than in a regulated utility with sub-par return prospects. We see a risk that this argument could lead to a more contentious regulatory environment, a material credit negative. We do not think this scenario will develop over the next few years.

Our default and recovery data provides strong evidence that regulated utilities are indeed less risky (from the perspective of a probability of default and expected loss given default, as defined by Moody's) than their non-financial corporate peers. On a global basis, we nonetheless see a material amount of capital looking for regulated utility investment opportunities, and the same is true in the US despite, despite a lower authorized return. This is partly because investors can use holding company leverage to increase their actual equity returns, by borrowing capital at today's low interest rates and investing in the equity of a regulated utility.

Despite the reduction in authorized ROEs, US utilities are thankful to their regulators for the robust suite of timely cost recovery mechanisms which allow them to recoup prudently incurred operating costs such as fuel, as well as some investment expenses. These recovery mechanisms drive a stable and transparent dividend policy, which translates into historically very high equity multiples. Moreover, cost recovery helps keep the sector's overall financial profile stable, thereby supporting strong investment-grade ratings.

Exhibit 2

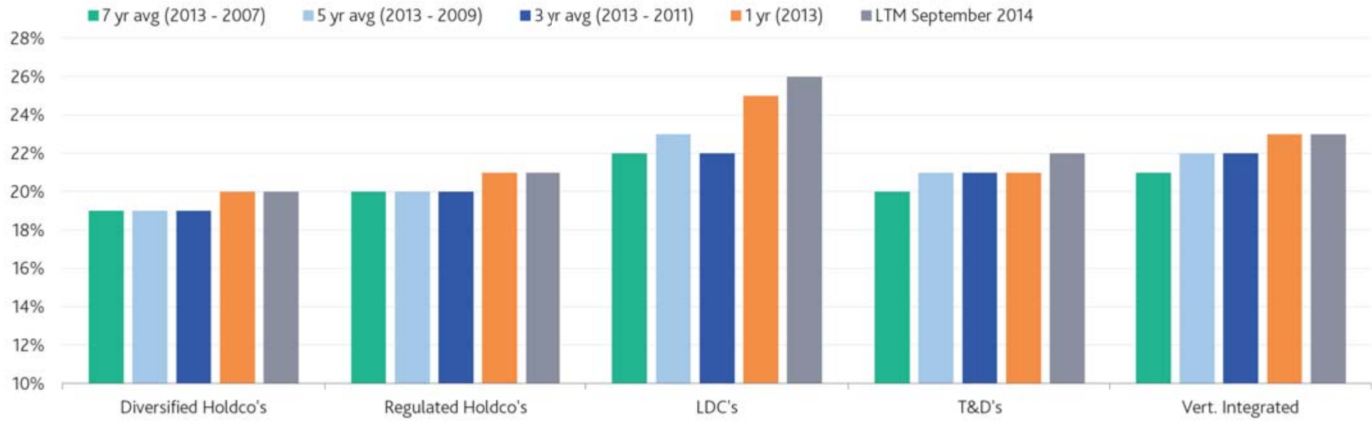
With better recovery mechanisms, the ratio of debt-to-EBITDA can rise, modestly, without negatively impacting credit profiles



SOURCE: Company filings; Moody's

Exhibit 3

The ratio of Funds From Operations to debt is rising, a material credit positive,
but the rise is partly funded by bonus depreciation and deferred taxes, which will eventually reverse



SOURCE: Company filings; Moody's

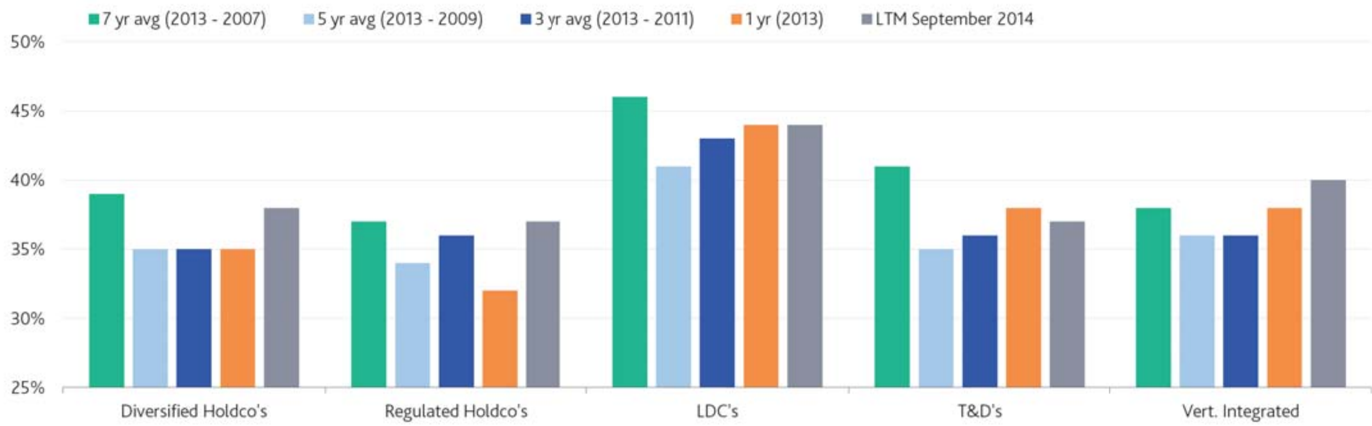
Utilities' cash flow is somewhat insulated from declining ROEs

Across all our utility group sub-sectors (see Appendix), net income - the numerator in the calculation of ROE – accounts for between 30% - 40% of cash flow. While net income is important, cash flow exerts a much greater influence over creditworthiness. This is primarily because cash flow takes into account depreciation and amortization expenses, along with other deferred tax adjustments. We note that deferred taxes have risen over the past few years, in part due to bonus depreciation elections, which will eventually reverse. From a credit perspective, there is a difference between the nominal amount of net income, which goes into cash flow, and the relationship of net income to book equity (a measure of profitability).

In the chart below, we highlight the ratio of net income to cash flow from operations (CFO) for our selected peer groups. Across all of the sectors, the longer term historical average of net income to CFO has fallen compared with the late 2000s, but has been rising over the more recent past. This is partly a function of deferred taxes, which have become a larger component of CFO over the past decade.

Exhibit 4

Net income as a % of cash flow from operations has been steadily rising (since 2011)

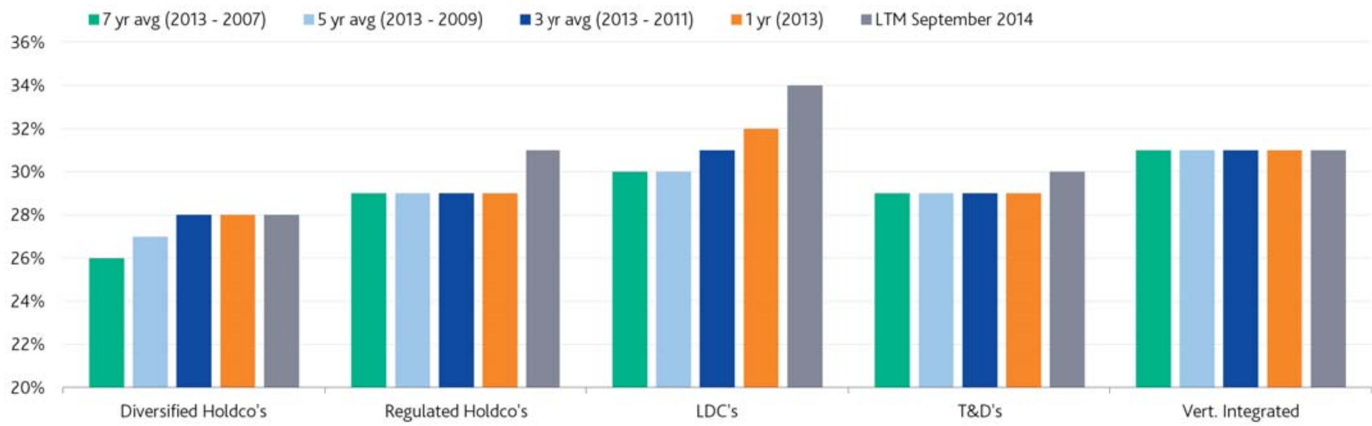


SOURCE: Company filings, Moody's

We can also envisage scenarios where regulators seek to achieve a reduction in authorized ROEs without harming credit profiles by focusing on utilities' equity layer. In the chart below, we illustrate median equity as a percentage of total assets for our selected peer groups. In our illustration, utilities will benefit from acquisition related goodwill on one hand, and impairments on the other.

Exhibit 5

Equity as a % of total assets, not capitalization, includes both goodwill and impairments



SOURCE: Company filings; Moody's

Utilities' actual financial performance remains stable

Earned ROE's, as reported by utilities and adjusted by Moody's, have been relatively flat over the past few years, despite the decline in authorized ROEs. This means utilities are closer to earning their authorized equity returns, which is positive from an equity market valuation perspective.

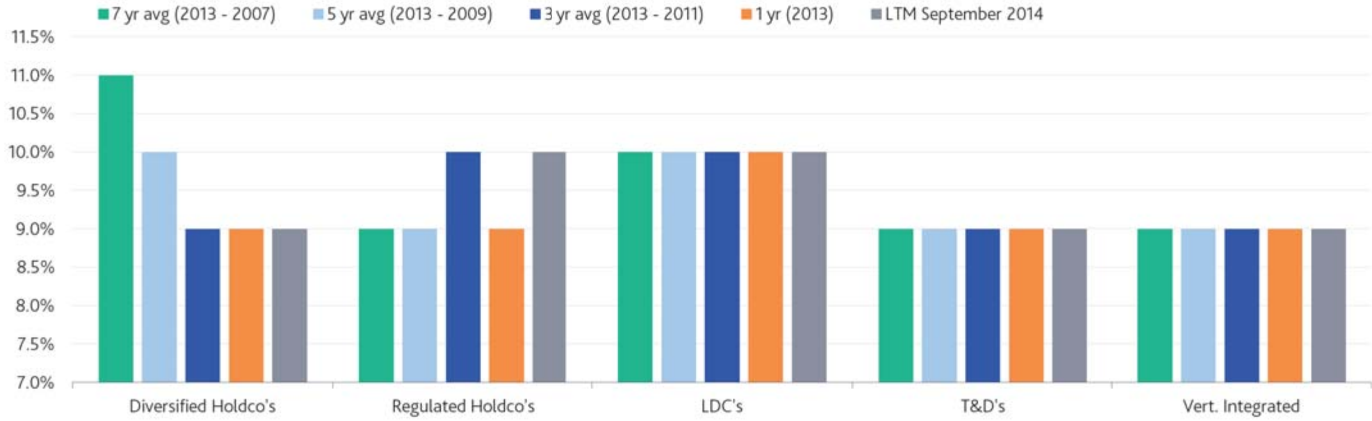
The authorized ROE is a popular focal point in many regulatory rate case proceedings. In addition, many regulatory jurisdictions look to established precedents that rely on various methodologies to determine an appropriate ROE, such as the capital asset pricing model or discounted cash flow analysis. In some jurisdictions where formulaic based rate structures point to lower ROEs for a longer projected period of time, regulators are incorporating a view that today's interest rate environment is "artificially" being held low.

Regardless, we think interest rates will go up, eventually. When they do, we also think authorized ROEs will trend up as well. However, just as authorized ROEs declined in a lagging fashion when compared to falling interest rates, we expect authorized ROEs to rise in a lagging fashion when interest rates rise.

Depending on alternative sources of risk-adjusted capital investment opportunities, this could spell trouble for utilities. For now, utilities can enjoy their (historically) high equity valuations, in terms of dividend yield and price-earnings ratios.

Exhibit 6

GAAP adjusted earned ROE's are relatively flat across all sub-sectors except Holding Companies with Diversified Operations, while the lower-risk LDC sector is outperforming



NOTE: GAAP adjusted ROE, not regulated ROE, does not adjust for goodwill or impairments.

Source: Company filings; Moody's

Appendix

Exhibit 7

Utilities with the highest earned ROEs (ranked by 7-year average)

Company Name	Sector	Rating	1-year average (2013) ROE	3-year average (2013 - 2011) ROE	5-year average (2013 - 2009) ROE	7-year average (2013 - 2007) ROE
CenterPoint Energy Houston Electric, LLC	T&D	A3	33%	32%	25%	23%
Questar Corporation	Holdco - Primarily Regulated	A2	14%	18%	20%	20%
AEP Texas Central Company	T&D	Baa1	14%	28%	22%	20%
Exelon Corporation	Holdco - Diversified	Baa2	7%	10%	14%	17%
CenterPoint Energy, Inc.	Holdco - Primarily Regulated	Baa1	7%	16%	15%	17%
Ohio Edison Company	T&D	Baa1	23%	18%	17%	16%
Public Service Enterprise Group	Holdco - Diversified	Baa2	11%	12%	14%	15%
Dayton Power & Light Company	T&D	Baa3	7%	9%	13%	15%
Dominion Resources Inc.	Holdco - Diversified	Baa2	13%	9%	12%	15%
Southern California Gas Company	LDC	A1	14%	13%	14%	15%
PECO Energy Company	T&D	A2	12%	12%	12%	14%
PPL Corporation	Holdco - Diversified	Baa3	9%	12%	11%	14%
UGI Utilities, Inc.	LDC	A2	15%	13%	13%	13%
Entergy Corporation	Holdco - Diversified	Baa3	7%	11%	12%	13%
Cleco Corporation	Holdco - Primarily Regulated	Baa1	10%	12%	13%	13%
Alabama Gas Corporation	LDC	A2	4%	11%	12%	13%
Entergy New Orleans, Inc.	Vertically Integrated Utility	Ba2	5%	10%	11%	12%
Entergy Gulf States Louisiana, LLC	Vertically Integrated Utility	Baa1	11%	13%	12%	12%
Piedmont Natural Gas Company, Inc.	LDC	A2	11%	11%	12%	12%
Ohio Power Company	T&D	Baa1	25%	14%	13%	12%
Southern Company (The)	Holdco - Primarily Regulated	Baa1	9%	11%	11%	12%
Georgia Power Company	Vertically Integrated Utility	A3	12%	12%	12%	12%
Alabama Power Company	Vertically Integrated Utility	A1	12%	12%	12%	12%
Southern California Edison Company	Vertically Integrated Utility	A2	8%	12%	12%	12%
NextEra Energy, Inc.	Holdco - Diversified	Baa1	10%	11%	11%	12%
Wisconsin Energy Corporation	Holdco - Primarily Regulated	A2	13%	13%	12%	12%
West Penn Power Company	T&D	Baa1	17%	13%	12%	12%
San Diego Gas & Electric Company	Vertically Integrated Utility	A1	9%	10%	11%	12%
Interstate Power and Light Company	Vertically Integrated Utility	A3	10%	9%	9%	12%

NOTE: GAAP adjusted ROE, not regulated ROE, does not adjust for goodwill or impairments.

SOURCE: Moody's; company filings

Exhibit 8

Highest (over 30%) and lowest (less than 20%) equity level as a % of total assets (ranked by 7-year average) [NOTE: Book equity is not adjusted for goodwill or impairments]

Company Name	Sector	Rating	1-year average (2013)	3-year average (2013 - 2011)	5-year average (2013 - 2009)	7-year average (2013 - 2007)
Duke Energy Ohio, Inc.	T&D	Baa1	48%	47%	48%	50%
Yankee Gas Services Company	LDC	Baa1	41%	42%	43%	43%
Texas-New Mexico Power Company	T&D	Baa1	43%	43%	43%	43%
Oncor Electric Delivery Company LLC	T&D	Baa1	40%	41%	41%	43%
Dayton Power & Light Company	T&D	Baa3	37%	38%	39%	40%
Pennsylvania Power Company	T&D	Baa1	25%	30%	34%	40%
Black Hills Power, Inc.	Vertically Integrated Utility	A3	38%	38%	37%	38%
ALLETE, Inc.	Vertically Integrated Utility	A3	38%	37%	37%	38%
Central Maine Power Company	T&D	A3	39%	38%	38%	38%
MGE Energy, Inc.	Holdco - Primarily Regulated	NR	39%	37%	38%	38%
Duke Energy Corporation	Holdco - Primarily Regulated	A3	36%	36%	37%	38%
Jersey Central Power & Light Company	T&D	Baa2	32%	33%	36%	38%
Oklahoma Gas & Electric Company	Vertically Integrated Utility	A1	36%	37%	37%	37%
Public Service Company of Colorado	Vertically Integrated Utility	A3	37%	37%	37%	37%
Virginia Electric and Power Company	Vertically Integrated Utility	A2	37%	37%	37%	35%
Wisconsin Public Service Corporation	Vertically Integrated Utility	A1	34%	34%	34%	35%
PacifiCorp	Vertically Integrated Utility	A3	36%	35%	35%	35%
UGI Utilities, Inc.	LDC	A2	35%	34%	34%	34%
Cleco Corporation	Holdco - Primarily Regulated	Baa1	37%	36%	34%	34%
Empire District Electric Company (The)	Vertically Integrated Utility	Baa1	35%	34%	34%	34%
Great Plains Energy Incorporated	Holdco - Primarily Regulated	Baa2	35%	35%	34%	34%
Nevada Power Company	Vertically Integrated Utility	Baa1	32%	33%	33%	33%
Tampa Electric Company	Vertically Integrated Utility	A2	34%	33%	33%	33%
Wisconsin Power and Light Company	Vertically Integrated Utility	A1	34%	33%	32%	33%
Questar Corporation	Holdco - Primarily Regulated	A2	29%	28%	31%	33%
Duke Energy Kentucky, Inc.	Vertically Integrated Utility	Baa1	31%	30%	33%	33%
Florida Power & Light Company	Vertically Integrated Utility	A1	36%	35%	34%	33%
Alabama Gas Corporation	LDC	A2	59%	40%	35%	33%
El Paso Electric Company	Vertically Integrated Utility	Baa1	34%	32%	32%	33%
IDACORP, Inc.	Holdco - Primarily Regulated	Baa1	34%	33%	33%	33%
PPL Electric Utilities Corporation	Vertically Integrated Utility	Baa1	34%	34%	34%	33%
Commonwealth Edison Company	T&D	Baa1	31%	32%	32%	33%
Georgia Power Company	Vertically Integrated Utility	A3	33%	33%	33%	33%
CMS Energy Corporation	Holdco - Primarily Regulated	Baa2	20%	19%	18%	18%
Hawaiian Electric Industries, Inc.	Holdco - Diversified		17%	16%	16%	16%
CenterPoint Energy, Inc.	Holdco - Primarily Regulated	Baa1	20%	19%	17%	15%
CenterPoint Energy Houston Electric, LLC	T&D	A3	9%	15%	15%	15%
AEP Texas Central Company	T&D	Baa1	13%	15%	14%	13%

SOURCE: Moody's; company filings

Exhibit 9

Highest (over 30%) and lowest (less than 15%) ratio of FFO to debt (ranked by 7-year average)

Company Name	Sector	Rating	1-year average (2013)	3-year average (2013 - 2011)	5-year average (2013 - 2009)	7-year average (2013 - 2007)
Dayton Power & Light Company	T&D	Baa3	32%	34%	42%	42%
Questar Corporation	Holdco - Primarily Regulated	A2	29%	30%	31%	42%
Pennsylvania Power Company	T&D	Baa1	30%	34%	32%	37%
Exelon Corporation	Holdco - Diversified	Baa2	28%	34%	37%	37%
Alabama Gas Corporation	LDC	A2	23%	27%	32%	36%
Florida Power & Light Company	Vertically Integrated Utility	A1	34%	35%	35%	35%
Southern California Gas Company	LDC	A1	42%	37%	35%	34%
Southern California Edison Company	Vertically Integrated Utility	A2	32%	33%	35%	32%
Madison Gas and Electric Company	Vertically Integrated Utility	A1	39%	35%	34%	31%
PECO Energy Company	T&D	A2	29%	31%	33%	31%
Dominion Resources Inc.	Holdco - Diversified	Baa2	16%	17%	16%	14%
Entergy Texas, Inc.	Vertically Integrated Utility	Baa3	15%	14%	12%	14%
Monongahela Power Company	T&D	Baa2	13%	16%	15%	14%
CMS Energy Corporation	Holdco - Primarily Regulated	Baa2	18%	16%	15%	14%
Appalachian Power Company	Vertically Integrated Utility	Baa1	15%	13%	14%	14%
Pennsylvania Electric Company	T&D	Baa2	15%	14%	12%	13%
NiSource Inc.	Holdco - Diversified	Baa2	15%	14%	14%	13%
Puget Energy, Inc.	Vertically Integrated Utility	Baa3	14%	12%	12%	13%
Toledo Edison Company	T&D	Baa3	10%	10%	8%	13%
Cleveland Electric Illuminating Company	T&D	Baa3	11%	11%	12%	13%
AEP Texas Central Company	T&D	Baa1	14%	15%	13%	12%

SOURCE: Moody's; company filings

Exhibit 10

Highest (over 4.5x) and lowest (less than 3.0x) ratio of debt to EBITDA (ranked by 1-year average, 2013, to focus on more recent performance)

Company Name	Sector	Rating	1-year average (2013)	3-year average (2013 - 2011)	5-year average (2013 - 2009)	7-year average (2013 - 2007)
Berkshire Hathaway Energy Company	Holdco - Diversified	A3	7.1	5.8	5.6	5.3
FirstEnergy Corp.	Holdco - Diversified	Baa3	6.0	5.2	4.8	4.4
Wisconsin Electric Power Company	Vertically Integrated Utility	A1	5.9	6.1	5.6	5.0
Entergy Texas, Inc.	Vertically Integrated Utility	Baa3	5.8	6.1	6.2	6.1
Monongahela Power Company	T&D	Baa2	5.6	5.2	5.7	6.0
NiSource Inc.	Holdco - Diversified	Baa2	5.2	5.5	5.4	5.5
PPL Corporation	Holdco - Diversified	Baa3	5.1	4.9	5.1	4.6
Appalachian Power Company	Vertically Integrated Utility	Baa1	5.0	5.0	5.2	5.4
Progress Energy, Inc.	Holdco - Primarily Regulated	Baa1	4.9	5.6	5.1	4.9
Puget Energy, Inc.	Vertically Integrated Utility	Baa3	4.9	5.6	5.9	5.6
Cleveland Electric Illuminating Company	T&D	Baa3	4.9	5.2	4.7	4.2
Northwest Natural Gas Company	LDC	A3	4.8	4.8	4.5	4.2
Jersey Central Power & Light Company	T&D	Baa2	4.7	5.5	4.2	3.6
NorthWestern Corporation	Vertically Integrated Utility	A3	4.7	4.5	4.4	4.3
Pepco Holdings, Inc.	Holdco - Primarily Regulated	Baa3	4.7	5.1	5.2	5.2
Laclede Gas Company	LDC	A3	4.7	5.5	5.3	5.6
Atlantic City Electric Company	T&D	Baa2	4.7	4.9	4.8	4.7
Nevada Power Company	Vertically Integrated Utility	Baa1	4.6	4.6	4.9	5.0
Black Hills Power, Inc.	Vertically Integrated Utility	A3	2.9	3.2	3.8	3.6
Virginia Electric and Power Company	Vertically Integrated Utility	A2	2.9	3.1	3.4	3.4
Duke Energy Kentucky, Inc.	Vertically Integrated Utility	Baa1	2.9	3.3	3.3	3.4
Texas-New Mexico Power Company	T&D	Baa1	2.9	2.9	3.2	3.3
Oklahoma Gas & Electric Company	Vertically Integrated Utility	A1	2.9	2.9	2.9	3.0
Cleco Power LLC	Vertically Integrated Utility	A3	2.9	3.2	3.6	3.7
Consumers Energy Company	Vertically Integrated Utility	A1	2.9	3.1	3.3	3.5
Alabama Power Company	Vertically Integrated Utility	A1	2.8	2.9	3.0	3.1
Public Service Electric and Gas Company	T&D	A2	2.8	3.0	3.2	3.3
Alabama Gas Corporation	LDC	A2	2.8	2.7	2.5	2.4
Pinnacle West Capital Corporation	Holdco - Primarily Regulated	Baa1	2.8	3.1	3.3	3.6
Cleco Corporation	Holdco - Primarily Regulated	Baa1	2.8	2.9	3.4	3.6
PECO Energy Company	T&D	A2	2.8	3.0	2.6	2.6
Northern States Power Company (Wisconsin)	Vertically Integrated Utility	A2	2.8	2.9	2.8	2.8
Duke Energy Carolinas, LLC	Vertically Integrated Utility	A1	2.8	3.1	3.2	3.1
UGI Utilities, Inc.	LDC	A2	2.7	3.0	3.1	3.3
Exelon Corporation	Holdco - Diversified	Baa2	2.7	2.8	2.5	2.5
West Penn Power Company	T&D	Baa1	2.7	3.3	3.3	3.4
Questar Corporation	Holdco - Primarily Regulated	A2	2.7	2.8	2.7	2.3
Tampa Electric Company	Vertically Integrated Utility	A2	2.6	2.7	2.8	2.9
Arizona Public Service Company	Vertically Integrated Utility	A3	2.6	2.9	3.1	3.3
New York State Electric and Gas Corporation	T&D	A3	2.6	2.9	3.2	4.3
Dayton Power & Light Company	T&D	Baa3	2.5	2.2	2.0	1.9
Florida Power & Light Company	Vertically Integrated Utility	A1	2.4	2.7	2.6	2.6
Ohio Power Company	T&D	Baa1	2.4	2.8	3.1	3.3
Madison Gas and Electric Company	Vertically Integrated Utility	A1	2.4	2.8	2.8	2.9
Pennsylvania Power Company	T&D	Baa1	2.4	2.3	2.4	2.2
MGE Energy, Inc.	Holdco - Primarily Regulated	NR	2.3	2.7	2.9	3.1
Rochester Gas & Electric Corporation	T&D	Baa1	2.3	2.9	3.0	3.5
Public Service Enterprise Group Incorporated	Holdco - Diversified	Baa2	2.3	2.3	2.3	2.4
NSTAR Electric Company	T&D	A2	2.2	2.6	2.7	2.8
Southern California Gas Company	LDC	A1	2.2	2.5	2.4	2.5
Mississippi Power Company	Vertically Integrated Utility	Baa1	(3.2)	3.5	3.4	3.1

Exhibit 11

List of Companies (NOTE: in our appendix tables, we exclude utilities with private ratings)

Company Name	Sector	Rating
Berkshire Hathaway Energy Company	Holdco - Diversified	A3
Black Hills Corporation	Holdco - Diversified	Baa1
Dominion Resources Inc.	Holdco - Diversified	Baa2
DTE Energy Company	Holdco - Diversified	A3
Entergy Corporation	Holdco - Diversified	Baa3
Exelon Corporation	Holdco - Diversified	Baa2
FirstEnergy Corp.	Holdco - Diversified	Baa3
Hawaiian Electric Industries, Inc.	Holdco - Diversified	NR
Integrys Energy Group, Inc.	Holdco - Diversified	A3
NextEra Energy, Inc.	Holdco - Diversified	Baa1
NiSource Inc.	Holdco - Diversified	Baa2
PPL Corporation	Holdco - Diversified	Baa3
Public Service Enterprise Group Incorporated	Holdco - Diversified	Baa2
Sempra Energy	Holdco - Diversified	Baa1
Alliant Energy Corporation	Holdco - Primarily Regulated	A3
Ameren Corporation	Holdco - Primarily Regulated	Baa2
American Electric Power Company, Inc.	Holdco - Primarily Regulated	Baa1
CenterPoint Energy, Inc.	Holdco - Primarily Regulated	Baa1
Cleco Corporation	Holdco - Primarily Regulated	Baa1
CMS Energy Corporation	Holdco - Primarily Regulated	Baa2
Consolidated Edison, Inc.	Holdco - Primarily Regulated	A3
Duke Energy Corporation	Holdco - Primarily Regulated	A3
Edison International	Holdco - Primarily Regulated	A3
Great Plains Energy Incorporated	Holdco - Primarily Regulated	Baa2
IDACORP, Inc.	Holdco - Primarily Regulated	Baa1
MGE Energy, Inc.	Holdco - Primarily Regulated	NR
Northeast Utilities	Holdco - Primarily Regulated	Baa1
Pepco Holdings, Inc.	Holdco - Primarily Regulated	Baa3
PG&E Corporation	Holdco - Primarily Regulated	Baa1
Pinnacle West Capital Corporation	Holdco - Primarily Regulated	Baa1
PNM Resources, Inc.	Holdco - Primarily Regulated	Baa3
Progress Energy, Inc.	Holdco - Primarily Regulated	Baa1
Questar Corporation	Holdco - Primarily Regulated	A2
SCANA Corporation	Holdco - Primarily Regulated	Baa3
Southern Company (The)	Holdco - Primarily Regulated	Baa1
Wisconsin Energy Corporation	Holdco - Primarily Regulated	A2
Xcel Energy Inc.	Holdco - Primarily Regulated	A3
Alabama Gas Corporation	LDC	A2
Atmos Energy Corporation	LDC	A2
DTE Gas Company	LDC	Aa3
Laclede Gas Company	LDC	A3
New Jersey Natural Gas Company	LDC	Aa2
Northern Natural Gas Company [Private]	LDC	A2
Northwest Natural Gas Company	LDC	A3
Piedmont Natural Gas Company, Inc.	LDC	A2
South Jersey Gas Company	LDC	A2
Southern California Gas Company	LDC	A1
Southwest Gas Corporation	LDC	A3
UGI Utilities, Inc.	LDC	A2
Washington Gas Light Company	LDC	A1
Wisconsin Gas LLC [Private]	LDC	A1
Yankee Gas Services Company	LDC	Baa1
AEP Texas Central Company	T&D	Baa1
AEP Texas North Company	T&D	Baa1
Atlantic City Electric Company	T&D	Baa2

Baltimore Gas and Electric Company	T&D	A3
CenterPoint Energy Houston Electric, LLC	T&D	A3
Central Hudson Gas & Electric Corporation	T&D	A2
Central Maine Power Company	T&D	A3
Cleveland Electric Illuminating Company (The)	T&D	Baa3
Commonwealth Edison Company	T&D	Baa1
Connecticut Light and Power Company	T&D	Baa1
Consolidated Edison Company of New York, Inc.	T&D	A2
Dayton Power & Light Company	T&D	Baa3
Delmarva Power & Light Company	T&D	Baa1
Duke Energy Ohio, Inc.	T&D	Baa1
Jersey Central Power & Light Company	T&D	Baa2
Metropolitan Edison Company	T&D	Baa1
Monongahela Power Company	T&D	Baa2
New York State Electric and Gas Corporation	T&D	A3
NSTAR Electric Company	T&D	A2
Ohio Edison Company	T&D	Baa1
Ohio Power Company	T&D	Baa1
Oncor Electric Delivery Company LLC	T&D	Baa1
Orange and Rockland Utilities, Inc.	T&D	A3
PECO Energy Company	T&D	A2
Pennsylvania Electric Company	T&D	Baa2
Pennsylvania Power Company	T&D	Baa1
Potomac Edison Company (The)	T&D	Baa2
Potomac Electric Power Company	T&D	Baa1
Public Service Electric and Gas Company	T&D	A2
Rochester Gas & Electric Corporation	T&D	Baa1
Texas-New Mexico Power Company	T&D	Baa1
Toledo Edison Company	T&D	Baa3
West Penn Power Company	T&D	Baa1
Western Massachusetts Electric Company	T&D	A3
Alabama Power Company	Vertically Integrated Utility	A1
ALLETE, Inc.	Vertically Integrated Utility	A3
Appalachian Power Company	Vertically Integrated Utility	Baa1
Arizona Public Service Company	Vertically Integrated Utility	A3
Avista Corp.	Vertically Integrated Utility	Baa1
Black Hills Power, Inc.	Vertically Integrated Utility	A3
Cleco Power LLC	Vertically Integrated Utility	A3
Consumers Energy Company	Vertically Integrated Utility	A1
DTE Electric Company	Vertically Integrated Utility	A2
Duke Energy Carolinas, LLC	Vertically Integrated Utility	A1
Duke Energy Florida, Inc.	Vertically Integrated Utility	A3
Duke Energy Kentucky, Inc.	Vertically Integrated Utility	Baa1
Duke Energy Progress, Inc.	Vertically Integrated Utility	A1
El Paso Electric Company	Vertically Integrated Utility	Baa1
Empire District Electric Company (The)	Vertically Integrated Utility	Baa1
Entergy Arkansas, Inc.	Vertically Integrated Utility	Baa2
Entergy Gulf States Louisiana, LLC	Vertically Integrated Utility	Baa1
Entergy Louisiana, LLC	Vertically Integrated Utility	Baa1
Entergy Mississippi, Inc.	Vertically Integrated Utility	Baa2
Entergy New Orleans, Inc.	Vertically Integrated Utility	Ba2
Entergy Texas, Inc.	Vertically Integrated Utility	Baa3
Florida Power & Light Company	Vertically Integrated Utility	A1
Georgia Power Company	Vertically Integrated Utility	A3
Gulf Power Company	Vertically Integrated Utility	A2
Hawaiian Electric Company, Inc.	Vertically Integrated Utility	Baa1
Idaho Power Company	Vertically Integrated Utility	A3
Indiana Michigan Power Company	Vertically Integrated Utility	Baa1
Interstate Power and Light Company	Vertically Integrated Utility	A3
Kansas City Power & Light Company	Vertically Integrated Utility	Baa1
Kentucky Power Company	Vertically Integrated Utility	Baa2

Madison Gas and Electric Company	Vertically Integrated Utility	A1
MidAmerican Energy Company	Vertically Integrated Utility	A1
Mississippi Power Company	Vertically Integrated Utility	Baa1
Nevada Power Company	Vertically Integrated Utility	Baa1
Northern States Power Company (Minnesota)	Vertically Integrated Utility	A2
Northern States Power Company (Wisconsin)	Vertically Integrated Utility	A2
NorthWestern Corporation	Vertically Integrated Utility	A3
Oklahoma Gas & Electric Company	Vertically Integrated Utility	A1
Pacific Gas & Electric Company	Vertically Integrated Utility	A3
PacifiCorp	Vertically Integrated Utility	A3
Portland General Electric Company	Vertically Integrated Utility	A3
PPL Electric Utilities Corporation	Vertically Integrated Utility	Baa1
Public Service Company of Colorado	Vertically Integrated Utility	A3
Public Service Company of New Hampshire	Vertically Integrated Utility	Baa1
Public Service Company of New Mexico	Vertically Integrated Utility	Baa2
Public Service Company of Oklahoma	Vertically Integrated Utility	A3
Puget Energy, Inc.	Vertically Integrated Utility	Baa3
Puget Sound Energy, Inc.	Vertically Integrated Utility	Baa1
San Diego Gas & Electric Company	Vertically Integrated Utility	A1
Sierra Pacific Power Company	Vertically Integrated Utility	Baa1
South Carolina Electric & Gas Company	Vertically Integrated Utility	Baa2
Southern California Edison Company	Vertically Integrated Utility	A2
Southwestern Electric Power Company	Vertically Integrated Utility	Baa2
Southwestern Public Service Company	Vertically Integrated Utility	Baa1
Tampa Electric Company	Vertically Integrated Utility	A2
Tucson Electric Power Company	Vertically Integrated Utility	Baa1
Union Electric Company	Vertically Integrated Utility	Baa1
Virginia Electric and Power Company	Vertically Integrated Utility	A2
Wisconsin Electric Power Company	Vertically Integrated Utility	A1
Wisconsin Power and Light Company	Vertically Integrated Utility	A1
Wisconsin Public Service Corporation	Vertically Integrated Utility	A1

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Market Results Through 2015

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- Use sum betas for the development of size premia, and use sum beta within the CAPM (particularly if dealing with very small companies), because sum betas tend to better explain the returns of smaller companies. However, in cases in which you do use OLS betas in CAPM, you should use an OLS-beta derived size premium.

- Risk Premium Report portfolios do not include start-up and high-financial-risk companies. The returns on these companies could be expected to be high because of their risk, not because of their size.

- Despite many criticisms of the size effect, it continues to be observed in data sources. Further, observation of the size effect is consistent with a modification of the pure CAPM. Studies have shown the limitations of beta as a sole measure of risk. The size premium is an empirically derived correction to the pure CAPM.

- While the 1980s were *not* kind to small-cap companies (the size effect likely was on a cyclical low, or even negative), the evidence suggests that after the 1980s, the size effect may again be entering a cyclical period of strength.

- If the valuation analyst is estimating the cost of equity capital of a closely held subject company on an "as if publicly" basis, the valuation assumption is that the subject company would have liquidity (if it was public) to approximately the average of comparable size public companies. The size premium published in the *Valuation Handbook* are appropriate to use in developing the cost of equity capital without separating the size effect from the liquidity effect.

- The size effect is not without controversy, nor is this controversy something new. Traditionally, small companies are believed to have greater required rates of return than large companies because small companies are inherently riskier. It is not clear, however, whether this is due to size itself, or to other factors closely related to or correlated with size (e.g., liquidity).

- One can think of risk in terms of popularity. Characteristics of investments that investors *desire* are "popular", while characteristics of investments that investors do *not* desire are not popular. All other things being equal, assets with popular characteristics will be priced higher and have lower returns than assets with unpopular characteristics, which will be priced lower and have higher returns. Popularity can include all sorts of other characteristics that do not fit well into the risk and return paradigm.

NEW REGULATORY FINANCE

Roger A. Morin, PhD

2006
PUBLIC UTILITIES REPORTS, INC.
Vienna, Virginia

5. Standard & Poor's
6. Morningstar
7. BARRA

Value Line is the largest and most widely circulated independent investment advisory service, and influences the expectations of a large number of institutional and individual investors. The Value Line data are commercially available on a timely basis to investors in paper format or electronically. Value Line betas are derived from a least-squares regression analysis between weekly percent changes in the price of a stock and weekly percent changes in the New York Stock Exchange Average over a period of 5 years. In the case of shorter price histories, a smaller time period is used, but 2 years is the minimum. Value Line betas are computed on a theoretically sound basis using a broadly based market index, and they are adjusted for the regression tendency of betas to converge to 1.00. This necessary adjustment to beta is discussed below.

Practical and Conceptual Difficulties

Computational Issues. Absolute estimates of beta may vary over a wide range when different computational methods are used. The return data, the time period used, its duration, the choice of market index, and whether annual, monthly, or weekly return figures are used will influence the final result.

Ideally, the returns should be total returns, that is, dividends and capital gains. In practice, beta estimates are relatively unaffected if dividends are excluded. Theoretically, market returns should be expressed in terms of total returns on a portfolio of all risky assets. In practice, a broadly based value-weighted market index is used. For example, Merrill Lynch betas use the Standard & Poor's 500 market index, while Value Line betas use the New York Stock Exchange Composite market index. In theory, unless the market index used is the true market index, fully diversified to include all securities in their proportion outstanding, the beta estimate obtained is potentially distorted. Failure to include bonds, Treasury bills, real estate, etc., could lead to a biased beta estimate. But if beta is used as a relative risk ranking device, choice of the market index may not alter the relative rankings of security risk significantly.

To enhance statistical significance, beta should be calculated with return data going as far back as possible. But the company's risk may have changed if the historical period is too long. Weighting the data for this tendency is one possible remedy, but this procedure presupposes some knowledge of how risk changed over time. A frequent compromise is to use a 5-year period with either weekly or monthly returns. Value Line betas are computed based on weekly returns over a 5-year period, whereas Merrill Lynch betas are computed with monthly returns over a 5-year period. In an empirical study of utility

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In addition, other sources of growth may exist that do not require the plow-back of earnings. Changes in technology can advance growth with little capital expenditure by a firm. For instance, efficiency in the transfer of information has improved tremendously over the years as a result of internet technology. Many companies benefit from this increased efficiency with little direct investment in the internet. A company may also grow at the rate of inflation without retaining any earnings. The growth rate that the model estimates is a nominal growth rate, not a real growth rate. If retained earnings are zero, the model predicts zero growth; however, a firm could still grow at the general rate of inflation.

Another approach to estimating long-term growth rates is to focus on estimating the overall economic growth rate. Again, this is the approach used in the *Ibbotson Cost of Capital Yearbook*. To obtain the economic growth rate, a forecast is made of the growth rate's component parts. Expected growth can be broken into two main parts: expected inflation and expected real growth. By analyzing these components separately, it is easier to see the factors that drive growth.

Treasury Inflation-Protected Securities (TIPS), a relatively new investment vehicle in the U.S., can be used in conjunction with traditional long-term government bonds to estimate the market expectation for inflation. Theoretically, the yield on inflation-indexed bonds is equal to the real default-free rate of return.

To estimate long-term inflation, we can start with the current yield on a government bond with approximately 20 years to maturity of 2.41 percent and subtract the current yield on an inflation-indexed bond with approximately 20 years to maturity of 0.15 percent, for an inflation estimate of 2.26 percent.

Once the long-term expected inflation rate is estimated, the real growth rate must be determined. The growth rate in real Gross Domestic Product (GDP) for the period 1929 to 2012 was approximately 3.22 percent. Growth in real GDP (with only a few exceptions) has been reasonably stable over time; therefore, its historical performance is a good estimate of expected long-term (future) performance.

By combining the inflation estimate with the real growth rate estimate, a long-term estimate of nominal growth is formed:

2.26 percent + 3.22 percent = 5.48 percent.

Endnotes

[1] This relationship does not seem to hold empirically with small company stocks. This size effect is discussed in Chapter 7.

[2] In general, small company betas are expected to be higher than large company betas. This, however, does not hold for all time periods. Chapter 6 discusses in more detail the measurement of beta for small stocks.

[3] The beta-adjusted size premia are different from the small stock premia (or non-beta-adjusted size premia) shown in previous editions of the *Ibbotson Stocks, Bonds, Bills, and Inflation Yearbook* (prior to the 1995 Yearbook). The small stock premium reported in older editions of Stocks, Bonds, Bills, and Inflation is the difference in long-term average returns between the large company stock total return series (currently represented by the S&P 500) and the small company stock total return series (currently represented by the Dimensional Fund Advisors U.S. Micro Cap Portfolio). The size premia given here are based on slightly different baskets of stocks from the CRSP (Center for Research in Security Prices) data set and, more importantly, they are adjusted for beta. That is, small stocks do have higher betas than large stocks; the return, above what might be expected because of the higher betas, is the size premium. These size premia increase as the capitalization of the company decreases. Chapter 7 describes the development of these premia in more detail.

[4] Beta estimate is based on the full information beta for SIC code 36 from the *Ibbotson Industry Cost of Capital Reports* as of December 31, 2012 and December 31, 1996. This beta estimation methodology is described in detail in Chapter 6. For more information, visit http://global.morningstar.com/IndReportsStats

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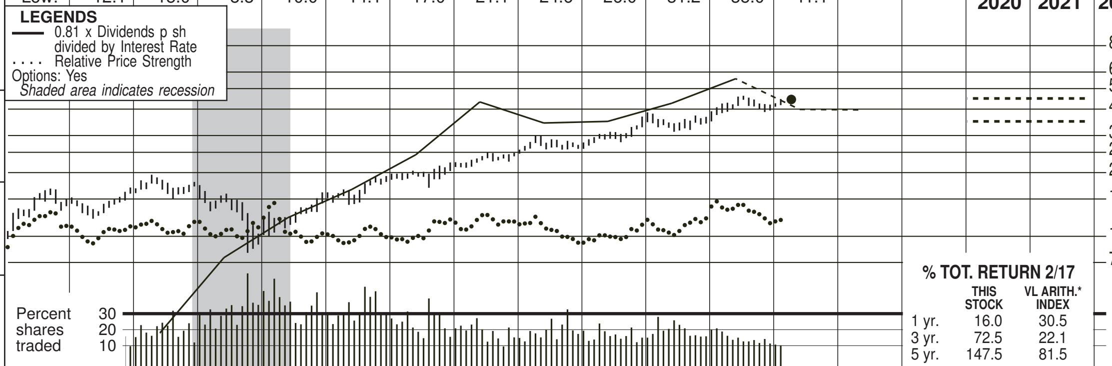
CMS ENERGY CORP. NYSE-CMS

RECENT PRICE 44.44 | P/E RATIO 22.4 (Trailing: 22.3 Median: 16.0) | RELATIVE P/E RATIO 1.15 | DIV'D YLD 3.0% | VALUE LINE

TIMELINESS 3 Raised 12/30/16
SAFETY 2 Raised 3/21/14
TECHNICAL 3 Lowered 9/30/16
BETA .65 (1.00 = Market)

High:	17.0	19.5	17.5	16.1	19.3	22.4	25.0	30.0	36.9	38.7	46.3	44.8
Low:	12.1	15.0	8.3	10.0	14.1	17.0	21.1	24.6	26.0	31.2	35.0	41.1



2020-22 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(Nil)	4%
Low	35	(-20%)	-1%

Insider Decisions

	M	J	J	A	S	O	N	D	J
to Buy	0	0	0	0	0	0	1	0	0
Options	10	0	1	0	1	0	0	0	11
to Sell	4	0	0	3	0	0	0	0	0

Institutional Decisions

	2Q2016	3Q2016	4Q2016
to Buy	236	203	232
to Sell	201	225	218
Hld's(000)	251054	246256	246703

% TOT. RETURN 2/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	16.0	30.5
3 yr.	72.5	22.1
5 yr.	147.5	81.5

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
72.16	60.28	34.21	28.06	28.52	30.57	28.95	30.13	27.23	25.77	25.59	23.90	24.68	26.09	23.29	22.92	*23.15*	*23.85*	Revenues per sh	*26.00*
5.24	d.09	2.39	2.87	3.43	3.22	3.08	3.88	3.47	3.70	3.65	3.82	4.06	4.22	4.59	4.88	*5.30*	*5.65*	"Cash Flow" per sh	*7.00*
1.27	d2.99	d.29	.74	1.10	.64	.64	1.23	.93	1.33	1.45	1.53	1.66	1.74	1.89	1.98	*2.15*	*2.30*	Earnings per sh A	*2.75*
1.46	1.09	- -	- -	- -	- -	.20	.36	.50	.66	.84	.96	1.02	1.08	1.16	1.24	*1.33*	*1.42*	Div'd Decl'd per sh B ■	*1.70*
9.49	5.18	3.32	2.69	2.69	3.01	5.61	3.50	3.59	3.29	3.47	4.65	4.98	5.73	5.64	5.99	*6.55*	*6.65*	Cap'l Spending per sh	*6.25*
14.21	7.86	9.84	10.63	10.53	10.03	9.46	10.88	11.42	11.19	11.92	12.09	12.98	13.34	14.21	15.23	*16.30*	*17.40*	Book Value per sh C	*21.00*
132.99	144.10	161.13	195.00	220.50	222.78	225.15	226.41	227.89	249.60	254.10	264.10	266.10	275.20	277.16	279.21	*281.00*	*283.00*	Common Shs Outst'g D	*289.00*
20.8	- -	- -	12.4	12.6	22.2	26.8	10.9	13.6	12.5	13.6	15.1	16.3	17.3	18.3	20.9	*Bold figures are*	*Value Line*	Avg Ann'l P/E Ratio	*14.5*
1.07	- -	- -	.66	.67	1.20	1.42	.66	.91	.80	.85	.96	.92	.91	.92	1.10	*estimates*		Relative P/E Ratio	*.90*
5.5%	7.5%	- -	- -	- -	- -	1.2%	2.7%	4.0%	4.0%	4.3%	4.2%	3.8%	3.6%	3.4%	3.0%			Avg Ann'l Div'd Yield	*4.2%*

CAPITAL STRUCTURE as of 12/31/16
Total Debt $10034 mill. **Due in 5 Yrs** $4608 mill.
LT Debt $8750 mill. **LT Interest** $389 mill.
Incl. $110 mill. capitalized leases.
(LT interest earned: 3.0x)
Leases, Uncapitalized Annual rentals $20 mill.
Pension Assets-12/16 $2101 mill. **Oblig** $2562 mill.
Pfd Stock $37 mill. **Pfd Div'd** $2 mill.
Incl. 373,148 shs. $4.50 $100 par, cum., callable at $110.00.
Common Stock 279,205,000 shs.

MARKET CAP: $12 billion (Large Cap)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		20-22
6519.0	6821.0	6205.0	6432.0	6503.0	6312.0	6566.0	7179.0	6456.0	6399.0	*6500*	*6750*	Revenues ($mill)	*7500*
168.0	300.0	231.0	356.0	384.0	413.0	454.0	479.0	525.0	553.0	*610*	*655*	Net Profit ($mill)	*805*
37.6%	31.6%	34.6%	38.1%	36.8%	39.4%	39.9%	34.3%	34.0%	33.1%	*34.0%*	*34.0%*	Income Tax Rate	*34.0%*
3.6%	1.3%	13.0%	2.2%	2.6%	2.9%	2.0%	2.3%	2.7%	3.1%	*3.0%*	*3.0%*	AFUDC % to Net Profit	*2.0%*
70.5%	69.4%	67.9%	70.1%	66.9%	67.9%	67.5%	68.7%	68.3%	67.1%	*66.5%*	*65.5%*	Long-Term Debt Ratio	*64.5%*
25.9%	27.4%	29.0%	29.5%	32.6%	31.6%	32.2%	31.0%	31.4%	32.6%	*33.5%*	*34.0%*	Common Equity Ratio	*35.5%*
8212.0	8993.0	8977.0	9473.0	9279.0	10101	10730	11846	12534	13040	*13725*	*14450*	Total Capital ($mill)	*17100*
8728.0	9190.0	9682.0	10069	10633	11551	12246	13412	14705	15715	*16675*	*17600*	Net Plant ($mill)	*19800*
4.5%	5.4%	4.7%	5.8%	6.3%	5.9%	6.0%	5.7%	5.7%	5.8%	*6.0%*	*6.0%*	Return on Total Cap'l	*6.0%*
6.9%	10.9%	8.0%	12.5%	12.5%	12.8%	13.0%	12.9%	13.2%	12.9%	*13.0%*	*13.0%*	Return on Shr. Equity	*13.0%*
7.2%	11.7%	8.5%	12.5%	12.6%	12.9%	13.1%	13.0%	13.3%	13.0%	*13.5%*	*13.5%*	Return on Com Equity E	*13.5%*
5.1%	8.4%	4.1%	6.9%	5.6%	5.0%	5.2%	5.0%	5.2%	4.8%	*5.0%*	*5.0%*	Retained to Com Eq	*5.0%*
35%	31%	54%	46%	55%	61%	60%	62%	61%	63%	*61%*	*61%*	All Div'ds to Net Prof	*61%*

ELECTRIC OPERATING STATISTICS

	2014	2015	2016
% Change Retail Sales (KWH)	+1.9	-.8	+1.7
Avg. Indust. Use (MWH)	NMF	5922	NA
Avg. Indust. Revs. per KWH (¢)	8.79	8.07	NA
Capacity at Peak (Mw)	8776	8762	NA
Peak Load, Summer (Mw)	7498	7812	NA
Annual Load Factor (%)	59.7	56.8	NA
% Change Customers (yr-end)	- -	+.6	+.1
Fixed Charge Cov. (%)	278	288	292

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '14-'16 to '20-'22
Revenues	-2.0%	-1.5%	*1.5%*
"Cash Flow"	3.5%	5.0%	*7.5%*
Earnings	8.5%	8.5%	*6.5%*
Dividends	- -	11.5%	*6.5%*
Book Value	3.0%	4.5%	*6.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	2523	1468	1430	1758	7179.0
2015	2111	1350	1486	1509	6456.0
2016	1801	1371	1587	1640	6399.0
2017	*1900*	*1400*	*1550*	*1650*	*6500*
2018	*2000*	*1450*	*1600*	*1700*	*6750*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	.75	.30	.34	.35	1.74
2015	.73	.25	.53	.38	1.89
2016	.59	.45	.67	.28	1.98
2017	*.70*	*.40*	*.60*	*.45*	*2.15*
2018	*.80*	*.40*	*.65*	*.45*	*2.30*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec. 31	Full Year
2013	.255	.255	.255	.255	1.02
2014	.27	.27	.27	.27	1.08
2015	.29	.29	.29	.29	1.16
2016	.31	.31	.31	.31	1.24
2017	.3325				

BUSINESS: CMS Energy Corporation is a holding company for Consumers Energy, which supplies electricity and gas to lower Michigan (excluding Detroit). Has 1.8 million electric, 1.7 million gas customers. Has 1,034 megawatts of nonregulated generating capacity. Sold Palisades nuclear plant in '07. Electric revenue breakdown: residential, 45%; commercial, 31%; industrial, 18%; other, 6%. Generating sources: coal, 27%; gas, 16%; other, 3%; purchased, 54%. Fuel costs: 44% of revenues. '16 reported deprec. rates: 3.9% electric, 2.9% gas, 9.8% other. Has 7,400 employees. Chairman: John G. Russell. President & CEO: Patti Poppe. Incorporated: Michigan. Address: One Energy Plaza, Jackson, Michigan 49201. Tel.: 517-788-0550. Internet: www.cmsenergy.com.

CMS Energy's utility subsidiary received an electric rate increase. The Michigan Public Service Commission (MPSC) granted Consumers Energy a rate hike of $113 million, based on 10.1% return on equity. The utility had sought a boost of $225 million, based on a 10.3% ROE. New tariffs went into effect on March 7th.

The utility self-implemented an interim gas rate increase in late January. The increase was $20 million, effective January 29th. Consumers Energy is seeking a hike of $90 million, based on a 10.6% ROE. The MPSC's final decision is due by the end of July.

Earnings should advance nicely this year and next. Consumers Energy will benefit from the aforementioned rate matters. In addition, the company is benefiting from a cost-management program that should see a reduction of 2%-3% annually in operating and maintenance expenses. Our 2017 estimate is within CMS Energy's typically narrow guidance of $2.14-$2.18 a share. (Management raised this by a cent upon its fourth-quarter earnings release in early February.) For 2018, we forecast a bottom-line increase in line with the company's annual goal of 6%-8%.

The board of directors raised the dividend in the first quarter. The increase was $0.09 a share (7.3%). This is in line with CMS Energy's target for yearly profit growth.

The utility has asked the MPSC to approve the buyout of a purchased-power contract with Entergy, the owner of the Palisades nuclear plant. Current market prices for power are well below the prices specified in the contract. If the $172 million buyout is approved, the contract will terminate in 2018 instead of 2022, and Consumers Energy will issue securitized bonds for the amount of the payment. The company expects to hear from the MPSC in August.

CMS Energy's strengths are reflected in the stock price, in our view. This reflects the company's solid earnings and dividend growth potential. With the equity's recent quotation near the upper end of our 2020-2022 Target Price Range, total return potential is negligible.

Paul E. Debbas, CFA *March 17, 2017*

(A) Diluted EPS. Excl. nonrec. gains (losses): '05, ($1.61); '06, ($1.08); '07, ($1.26); '09, (7¢); '10, 3¢; '11, 12¢; '12, (14¢); gains (losses) on disc. ops.: '05, 7¢; '06, 3¢; '07, (40¢); '09, 8¢; '10, (8¢); '11, 1¢; '12, 3¢. '16 EPS don't sum due to rounding. Next earnings report due late Apr. (B) Div'ds historically paid late Feb., May, Aug., & Nov. ■ Div'd reinvestment plan avail. (C) Incl. intang. In '16: $7.49/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate allowed on com. eq. in '17: 10.1%; earned on avg. com. eq., '16: 13.5%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	90
Earnings Predictability	80

EVERSOURCE ENERGY NYSE-ES

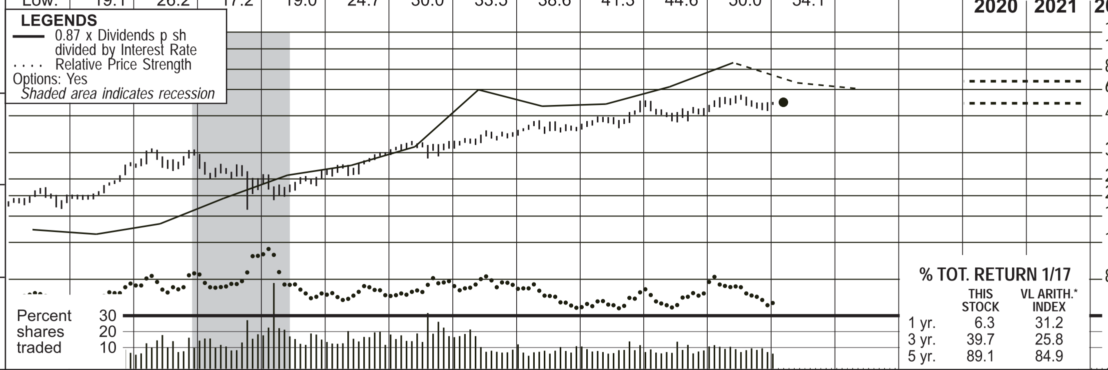
RECENT PRICE 55.68 | P/E RATIO 17.6 (Trailing: 19.8 Median: 17.0) | RELATIVE P/E RATIO 0.91 | DIV'D YLD 3.4% | VALUE LINE

TIMELINESS 3 Lowered 6/10/16
SAFETY 1 Raised 5/22/15
TECHNICAL 3 Raised 1/20/17
BETA .70 (1.00 = Market)

High:	28.9	33.6	31.6	26.5	32.2	36.5	40.9	45.7	56.7	56.8	60.4	56.1
Low:	19.1	26.2	17.2	19.0	24.7	30.0	33.5	38.6	41.3	44.6	50.0	54.1

Target Price Range 2020 | 2021 | 2022

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



2020-22 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	70	(+25%)	9%
Low	55	(Nil)	3%

Insider Decisions

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

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	232	277	254
to Sell	246	205	226
Hld's(000)	225085	222452	219375

Percent shares traded 30 20 10

% TOT. RETURN 1/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	6.3	31.2
3 yr.	39.7	25.8
5 yr.	89.1	84.9

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
52.82	40.89	47.53	51.82	41.85	44.64	37.27	37.22	30.97	27.76	25.21	19.98	23.16	24.42	25.08	*23.80*	*23.80*	*24.45*	Revenues per sh	27.00
10.48	6.32	5.80	5.00	5.46	3.69	4.82	6.16	4.96	5.68	4.88	4.03	5.22	4.56	4.94	*5.00*	*5.40*	*5.80*	"Cash Flow" per sh	7.25
1.37	1.08	1.24	.91	.98	.82	1.59	1.86	1.91	2.10	2.22	1.89	2.49	2.58	2.76	*2.95*	*3.15*	*3.35*	Earnings per sh A	4.25
.45	.53	.58	.63	.68	.73	.78	.83	.95	1.03	1.10	1.32	1.47	1.57	1.67	1.78	*1.90*	*2.00*	Div'd Decl'd per sh B ■	2.30
3.40	3.86	4.31	4.85	5.89	5.49	7.14	8.06	5.17	5.41	6.08	4.69	4.62	5.06	5.44	*7.00*	*8.40*	*7.75*	Cap'l Spending per sh	6.50
16.27	17.33	17.73	17.80	18.46	18.14	18.65	19.38	20.37	21.60	22.65	29.41	30.49	31.47	32.64	*33.80*	*35.10*	*36.45*	Book Value per sh C	41.50
130.13	127.56	127.70	129.03	131.59	154.23	156.22	155.83	175.62	176.45	177.16	314.05	315.27	316.98	317.19	*317.00*	*317.00*	*317.00*	Common Shs Outst'g D	317.00
14.1	16.1	13.4	20.8	19.8	27.1	18.7	13.7	12.0	13.4	15.4	19.9	16.9	17.9	18.1	*18.8*	*Bold figures are*		Avg Ann'l P/E Ratio	14.5
.72	.88	.76	1.10	1.05	1.46	.99	.82	.80	.85	.97	1.27	.95	.94	.91	*1.00*	*Value Line*		Relative P/E Ratio	.90
2.3%	3.0%	3.5%	3.3%	3.5%	3.3%	2.6%	3.2%	4.2%	3.6%	3.2%	3.5%	3.5%	3.4%	3.3%	3.2%	*estimates*		Avg Ann'l Div'd Yield	3.7%

CAPITAL STRUCTURE as of 9/30/16
Total Debt $10344 mill. **Due in 5 Yrs** $4545.3 mill.
LT Debt $9235.1 mill. **LT Interest** $385.2 mill.
(LT interest earned: 4.6x)
Leases, Uncapitalized Annual rentals $16.4 mill.
Pension Assets-12/15 $3905.4 mill. **Oblig** $5080.1 mill.
Pfd Stock $155.6 mill. **Pfd Div'd** $7.6 mill.
Incl. 2,324,000 shs $1.90-$3.28 rates ($50 par) not subject to mandatory redemption, call. at $50.50-$54.00; 430,000 shs 4.25%-4.78% not subject to mandatory redemption, call. at $102.80-$103.63.
Common Stock 316,885,808 shs. **as of 10/31/16**
MARKET CAP: $18 billion (Large Cap)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		20-22
5822.2	5800.1	5439.4	4898.2	4465.7	6273.8	7301.2	7741.9	7954.8	*7550*	*7550*	*7750*	Revenues ($mill)	8550
251.5	296.2	335.6	377.8	400.3	533.0	793.7	827.1	886.0	*940*	*1010*	*1075*	Net Profit ($mill)	1330
30.3%	29.7%	34.9%	36.6%	29.9%	34.0%	35.0%	36.2%	37.9%	*37.5%*	*37.5%*	*37.5%*	Income Tax Rate	37.5%
13.9%	15.8%	4.6%	7.1%	8.6%	2.3%	1.4%	2.4%	2.9%	*4.0%*	*4.0%*	*4.0%*	AFUDC % to Net Profit	3.0%
59.2%	60.4%	57.2%	55.1%	53.4%	43.7%	44.3%	45.9%	45.6%	*46.5%*	*46.5%*	*46.5%*	Long-Term Debt Ratio	45.5%
39.2%	38.1%	41.5%	43.6%	45.3%	55.4%	54.8%	53.2%	53.6%	*53.0%*	*52.5%*	*52.5%*	Common Equity Ratio	53.0%
7431.1	7926.2	8629.5	8741.8	8856.0	16675	17544	18738	19313	*20250*	*21100*	*21950*	Total Capital ($mill)	24400
7229.9	8207.9	8840.0	9567.7	10403	16605	17576	18647	19892	*21600*	*23700*	*25550*	Net Plant ($mill)	29200
5.0%	5.4%	5.4%	5.8%	5.9%	4.2%	5.5%	5.3%	5.5%	*5.5%*	*5.5%*	*6.0%*	Return on Total Cap'l	6.5%
8.3%	9.4%	9.1%	9.6%	9.7%	5.7%	8.1%	8.2%	8.4%	*8.5%*	*9.0%*	*9.0%*	Return on Shr. Equity	10.0%
8.4%	9.6%	9.2%	9.8%	9.8%	5.7%	8.2%	8.2%	8.5%	*8.5%*	*9.0%*	*9.0%*	Return on Com Equity E	10.0%
4.3%	5.3%	4.7%	5.0%	5.0%	1.6%	3.4%	3.5%	3.4%	*3.5%*	*3.5%*	*3.5%*	Retained to Com Eq	4.5%
50%	45%	50%	49%	50%	72%	59%	58%	61%	*61%*	*60%*	*60%*	All Div'ds to Net Prof	55%

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+1.0	-1.6	+.3
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	6.02	6.14	5.86
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Winter (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	427	426	447

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '20-'22
Revenues	-6.5%	-5.5%	*1.5%*
"Cash Flow"	-1.0%	-2.5%	*5.5%*
Earnings	9.5%	6.0%	*7.0%*
Dividends	9.5%	11.0%	*5.5%*
Book Value	6.0%	9.0%	*4.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	2290	1677	1892	1881	7741.9
2015	2513	1817	1933	1691	7954.8
2016	2056	1767	2040	*1687*	*7550*
2017	*2150*	*1800*	*1900*	*1700*	*7550*
2018	*2200*	*1850*	*1950*	*1750*	*7750*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	.74	.40	.74	.69	2.58
2015	.80	.65	.74	.57	2.76
2016	.77	.64	.83	*.71*	*2.95*
2017	*.90*	*.70*	*.85*	*.70*	*3.15*
2018	*.95*	*.75*	*.90*	*.75*	*3.35*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.367	.367	.367	.367	1.47
2014	.393	.393	.393	.393	1.57
2015	.417	.417	.418	.418	1.67
2016	.445	.445	.445	.445	1.78
2017	.475				

BUSINESS: Eversource Energy (formerly Northeast Utilities) is the parent of utilities that have 3.1 million electric, 504,000 gas customers. Supplies power to most of Connecticut and gas to part of Connecticut; supplies power to three fourths of New Hampshire's population; supplies power to western Massachusetts and parts of eastern Massachusetts & gas to central & eastern Massachusetts. Acquired NSTAR 4/12. Electric revenue breakdown: residential, 52%; commercial, 36%; industrial, 5%; other, 7%. Fuel costs: 39% of revenues. '15 reported deprec. rate: 2.9%. Has 8,200 employees. Chairman: Thomas J. May. President & CEO: Jim Judge. Inc.: Massachusetts. Address: 300 Cadwell Drive, Springfield, MA 01104. Tel.: 413-785-5871. Internet: www.eversource.com.

Eversource's utilities in eastern and western Massachusetts are seeking electric rate increases. The utilities filed for a total raise of $96 million, based on a 10.5% return on a 53.3% common-equity ratio. Eversource also wants to combine the two utilities into one entity. New rates will take effect at the start of 2018.

An electric rate case is upcoming in Connecticut. Eversource plans to put forth an application at the start of June, with new tariffs going into effect at the beginning of December.

We estimate solid earnings growth in 2017 and 2018. Eversource benefits from annual investments in electric transmission. Reductions in operating and maintenance expenses are another plus, as are customer conversions from oil heat to gas heat. Rate relief from the aforementioned rate cases should help next year. Our estimates would produce annual profit growth within management's targeted range of 5%-7%.

Eversource is trying to overcome opposition to two major proposed projects. The company has a 40% stake in a $3 billion pipeline to provide a much-needed increase in the gas supply to New England. The Massachusetts Supreme Court ruled that state law prohibits utilities from billing electric customers for pipelines. The original in-service date in 2018 probably won't be met. Also, Eversource wants to build a $1.6 billion transmission line between New Hampshire and Quebec. This project has been delayed, and the projected in-service date is now late 2019.

The board of directors raised the dividend. The increase in the quarterly payout was $0.03 a share (6.7%). Eversource's goal for annual dividend growth is 5%-7%, the same as for earnings growth.

The Massachusetts utilities received permission to build solar capacity. They will construct 62 megawatts this year at an expected cost of $180 million-$200 million.

High-quality Eversource stock has a dividend yield that is about average for a utility. Total return potential to 2020-2022 is also close to the norm for this industry.

Paul E. Debbas, CFA *February 17, 2017*

(A) Dil. EPS. Excl. nonrec. gains (losses): '02, 10¢; '03, (32¢); '04, (7¢); '05, ($1.36); '08, (19¢); '10, 9¢. '13 & '14 EPS don't add due to rounding. Next earnings report due late Feb. (B) Div'ds historically paid late Mar., June, Sept., & Dec. ■ Div'd reinv. plan avail. (C) Incl. def'd chgs. In '15: $22.88/sh. (D) In mill. (E) Rate all'd on com. eq. in MA: (elec) '11, 9.6%; (gas) '16, 9.8%; in CT: (elec.) '15, 9.02%; (gas) '15, 9.5%; in NH: '10, 9.67%; earn. on avg. com. eq., '15: 8.7%. Regul. Clim.: CT, Below Avg.; NH, Avg.; MA, Above Avg.

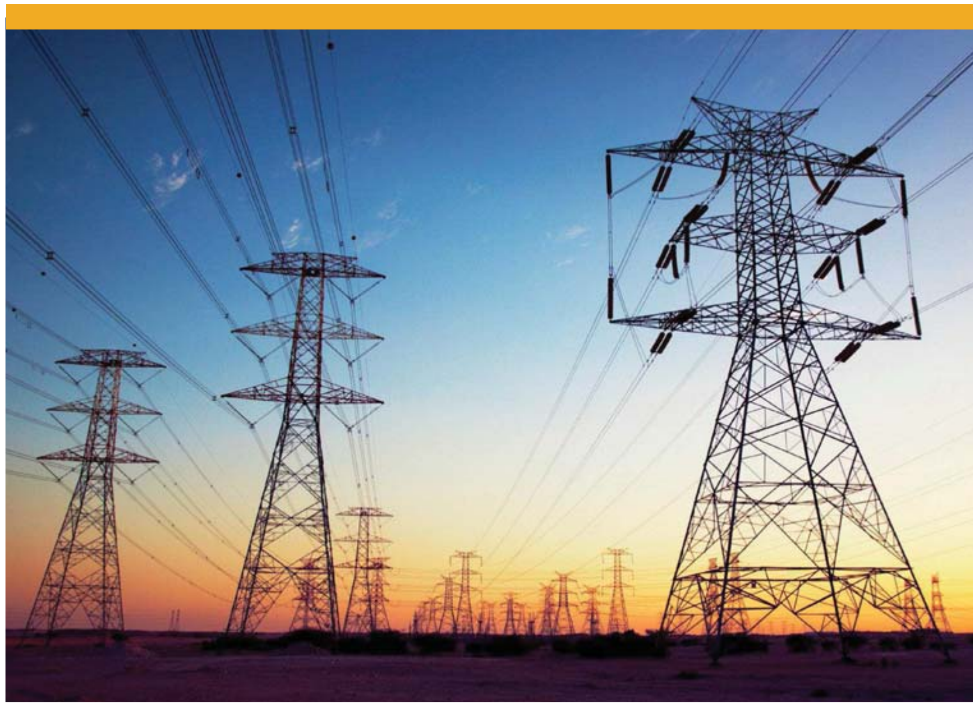
Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	80
Earnings Predictability	85

EEI

Edison Electric
INSTITUTE

2015 Financial Review

Annual Report of the U.S. Investor-Owned Electric Utility Industry



President's Letter

2015 Financial Review

With every advancement in technology, Americans are using electricity in more ways than ever. And every day, the men and women of the electric power industry are working to deliver the safe, reliable, affordable, and clean energy that drives our economy and powers America.

Today, a profound transformation is underway across our nation. Our research confirms that customers throughout the country expect our industry to be at the center of change and to deliver the energy future they want, in ways that do not jeopardize reliability and affordability. To meet customers' changing needs, we are transitioning to even cleaner generation sources and are leading the way on renewables. We are building smarter energy infrastructure, and our investments are creating additional jobs and making the power grid more dynamic and more secure for all customers. We are providing customers the energy solutions they want, and we are partnering with leading innovative companies and start-ups to shape the future using technology.

As an industry, we connect millions of Americans in their homes, communities, businesses and industries, and around the nation. We are an integral and robust component of our nation's economy—directly and indirectly creating jobs for more than one million Americans. We also are creating long-term solutions to address the ongoing need for a skilled, diverse workforce in the future. And, we are investing more than $100 billion each year to build smarter energy infrastructure and to transition to even cleaner generation sources.

As you will see in this year's *Financial Review,* the Edison Electric Institute's (EEI's) investor-owned electric company members continue to build upon a strong financial foundation. The industry's average credit rating was BBB+ for the second straight year in 2015, after increasing from the BBB average that had previously held since 2004. Ratings upgrades were a very favorable 70.0 percent of total credit actions, resulting from companies' increased focus on regulated operations, achieved through spin-offs and divestitures, as well as the effective management of regulatory risk. Extending a long-running trend, the industry's regulated asset base grew to a 69.1 percent share of total assets at yearend, up from 66.9 percent at the start of the year. The improved credit quality greatly supports the continued surge in capital expenditures, which rose by $7.2 billion, or 7.5 percent, to a new record high of $103.3 billion in 2015.

For the fifth consecutive year, all of the EEI Index companies paid a dividend in 2015, and strong dividend yields continue to support utility stocks. The industry's dividend yield at the end of 2015 stood at 3.8 percent, and 39 utilities, or 85 percent of the industry, increased their dividend last year, the largest percentage on record.

Looking ahead, I am optimistic about our industry's future. Our companies are changing and reinventing themselves to meet the demands of our modern, digital society. We stand ready to serve our customers, to deliver value, and to power our nation forward.

We truly value the partnership that we share with the financial community.

Thomas R. Kuhn

Thomas R. Kuhn

President
Edison Electric Institute

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INDUSTRY SURVEYS

Electric Utilities

February 2016

CHRISTOPHER MUIR
Equity Analyst

www.spglobal.com/marketintelligence

February 2016

INDUSTRY SURVEYS

Electric Utilities

PERFORMANCE

INDUSTRY PROFILE

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February 2016

INDUSTRY SURVEYS

Electric Utilities

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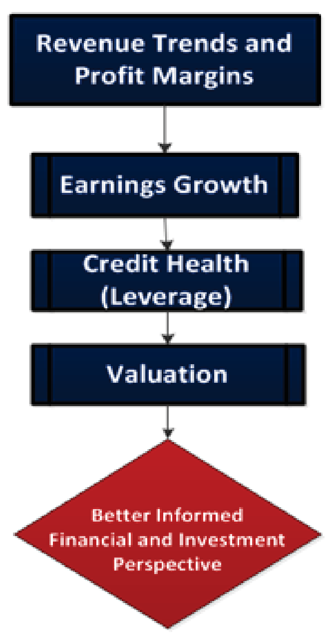
To our valued Industry Survey clients:

S&P Global Market Intelligence is pleased to inform you of many insightful enhancements and modifications to our product offering. First of all, you will notice an entirely new ***Performance*** section in addition to our traditional coverage of key industry statistics and trends that are now contained in the ***Industry Profile*** portion of our publication. The new and innovative Performance section is predominantly driven and empowered by S&P Capital IQ company fundamental data that is aggregated and market capitalization index weighted according to Global Industry Classification Standards (GICS) methodology. By taking this customized proprietary approach to data collection and analysis we are now able to provide our clients with a unique, contemporary and highly relevant perspective on the financial performance of entire sectors and related specific industries representing groupings of multinational corporations included in the S&P 1500 index, according to the most current financial reporting metrics available to the marketplace.

Appropriately, the specific industry titles covered by our Industry Survey report service offering have now also been aligned to the widely recognized and accepted GICS format. This new approach provides a direct connection between the data and insights provided in our upgraded reports, and many stock market indices and index-based securities, such as Exchange Traded Funds (ETFs). We have also added a new Sector Overview portion at the beginning of each report that is designed to summarize the fundamental sector-level backdrop in which the specific industry in-focus operates and competes on a peer-group basis. Coverage of capital market activity (M&A and, IPOs), inclusive of data, trend and deal analysis, has also been significantly enhanced as part of our upgraded service offering.

The sector and industry level data, observations and analysis are presented in a deliberate ordered fashion where the cumulative insights flow in a logical and decision-supportive progression, specifically:



EXECUTIVE SUMMARY

◆ Against the backdrop of a steadily improving macroeconomic environment (slowly rising customer growth, higher housing starts, and increasing industrial usage), revenue trends for the electric utilities industry should remain positive, although S&P Global Market Intelligence sees some challenges to revenue growth in the next year or two due to summer temperatures returning to more normal levels. We also see near-term challenges to earnings growth due to the weather, but we expect long-term earnings growth to benefit from rate increases, customer growth, and increasing industrial sales.

◆ The Industry Overview section of this *Survey* contains further discussion on multi-utilities, highlighting in some metrics the differences between electric utilities and multi-utilities. S&P Global Market Intelligence notes that within the multi-utilities industry, only 24% of operating revenues in 2014 were from gas distribution; hence, for the most part, activity in the multi-utilities metrics more closely follows the electric utilities metrics than those of gas utilities.

◆ S&P Global Market Intelligence foresees continued high levels of capital spending by the industry, both on regulated and unregulated investments. Regulated capital spending includes spending on infrastructure replacement, new transmission and distribution facilities and lines, and regulated power plants, including new nuclear units currently under construction. Unregulated spending will mostly focus on new natural gas-fired combined-cycle power plants, and we think investment in solar and wind generation projects is also likely.

◆ S&P Global Market Intelligence thinks electric utilities valuations are currently mixed, with near normal price-to-earnings (P/E) valuations, but still high enterprise value to earnings before interest, tax, depreciation, and amortization (EV/EBITDA)valuations. The electric utilities industry has benefited from several years of solid earnings growth and low interest rates. Rapidly rising interest rates could hurt valuations, as prices would need to drop to make electric utilities dividend yields competitive with fixed income investments.

SECTOR OVERVIEW

The utilities sector makes up 3.4% of the S&P 500 index market capitalization and 3.7% of the S&P 1500 index market capitalization, as of February, 2016. The sector is comprised of five industries: electric utilities, multi-utilities, gas utilities, independent power & renewable electricity producers, and water utilities.

From a stock price perspective, the 8.0% decline in 2015 for the utilities sector was worse than the 0.7% decline in the S&P 500.

SECTOR AND INDEX PRICE PERFORMANCE
(values in percent)

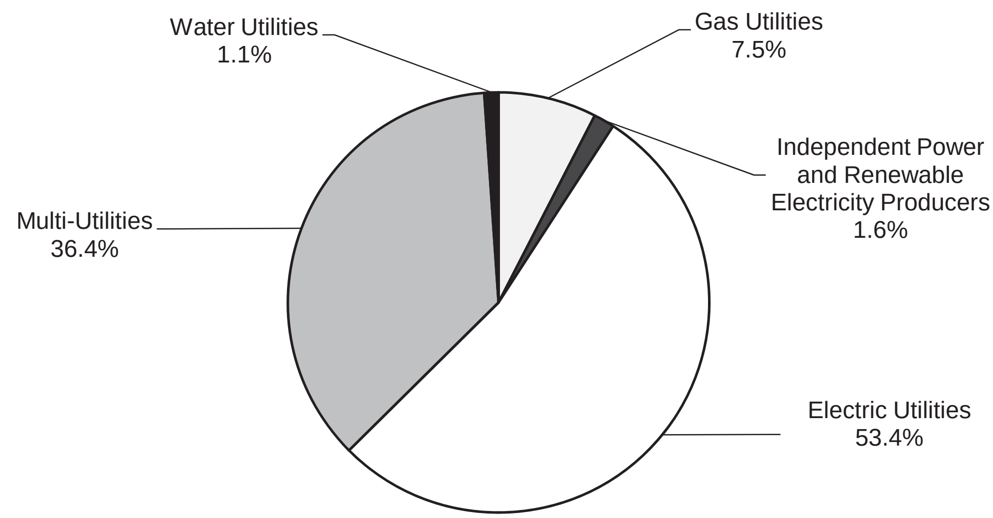
SECTOR	------ YEAR ENDED ------		5-YEAR
	2015	2016*	CAGR
Consumer Discretionary Sector Index	6.2	(5.2)	14.5
Consumer Staples Sector Index	3.4	0.3	12.0
Energy Sector Index	(24.4)	(3.4)	(5.0)
Financials Sector Index	(2.8)	(8.5)	5.9
Health Care Sector Index	5.8	(7.7)	16.2
Industrials Sector Index	(4.7)	(5.8)	7.1
Information Technology Sector Index	4.0	(5.1)	9.9
Materials Sector Index	(11.9)	(9.9)	0.8
Telecommunication Services Sector Index	(1.8)	5.3	5.0
Utilities Sector Index	(8.0)	4.7	7.7
S&P 500	(0.7)	5.1	8.6
S&P MidCap 400	(3.7)	5.8	7.3
S&P SmallCap 600	(3.4)	6.2	8.6
S&P Composite 1500	1.0	5.2	8.5

*Data through January 31, 2016.
Source: S&P Global Market Intelligence.

From a profit perspective, according to consensus estimates as of February 16, 2016, the utilities sector was expected to post earnings growth of 1.5% in the first quarter of 2016, 3.9% in the second quarter, and 4.3% in the third quarter. By contrast, the S&P 500 was expected to decline 5.1% in the first quarter, 1.1% in the second quarter, then turn to growth of 6.1%in the third quarter. For all of 2016, the utilities sector is poised to generate 4.6% profit growth, above the S&P 500's 2.9% earnings growth forecast.

For the five industries in the utilities sector, from an equity market capitalization perspective in terms of size, electric utilities is the largest industry, accounting for 53.4% of the sector followed by multi-utilities at 36.4%. Filling out the rest of the sector is gas utilities at 7.5%, independent power & renewable electricity producers at 1.6%, and water utilities at 1.1% of market capitalization.

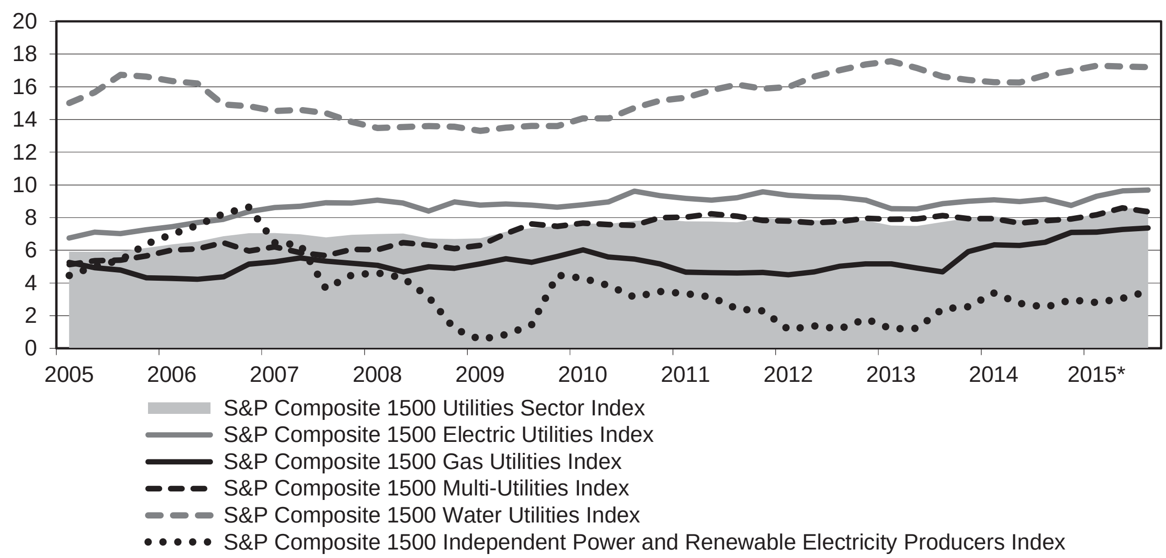
UTILITIES BREAKDOWN BY MARKET CAPITALIZATION
(as of February 2016)



Source: S&P Global Market Intelligence.

Although it is the smallest industry in terms of market capitalization, water utilities boast the highest net income margin. This industry has led since 2005. The net income margin for water utilities in the third quarter of 2015 is 751 basis points (bps) ahead of the next highest net income margin in the utilities sector (electric utilities at 9.7%).

UTILITIES SECTOR NET INCOME MARGIN BY INDUSTRY GROUP
(last four quarters, in percent)



*Data through third quarter.

Source: S&P Global Market Intelligence.

Several key metrics are important for understanding the state of the utilities sector, especially those that focus on revenue, margins, earnings, and credit trends.

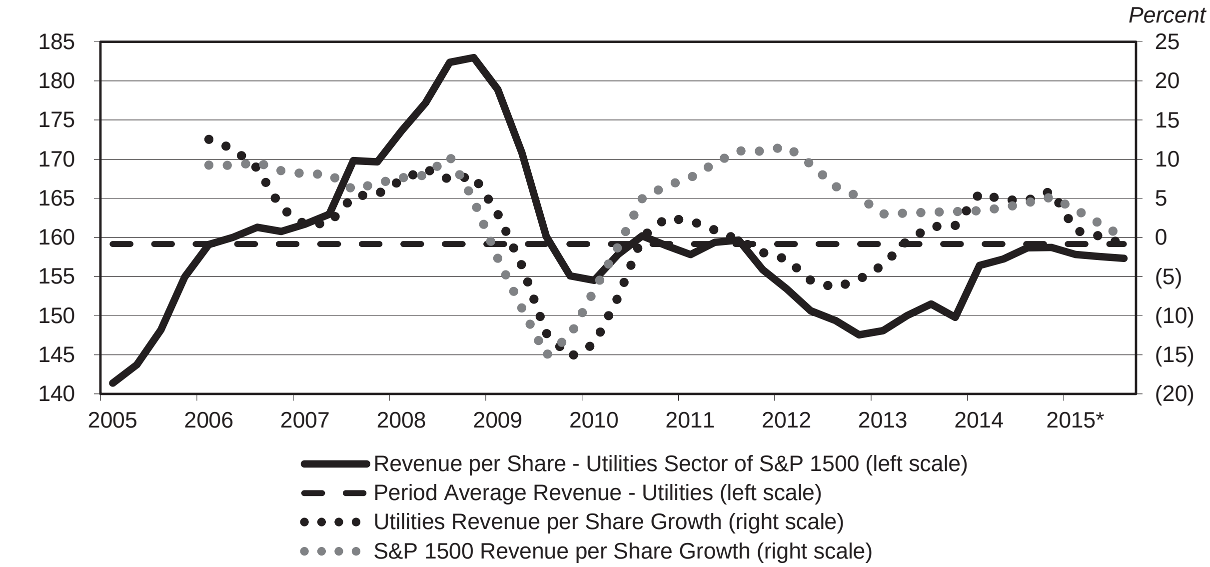
In this Sector Overview section, all data are calculated on an aggregated per-share basis within the utilities sector as a component of the S&P 1500 index constituent universe. The average is market-weighted, which means larger companies are more influential than smaller ones.

Sector Revenue

Revenue and Revenue Growth

◆ Revenue per share growth for the utilities sector lagged the S&P 1500 for much of the past five years, but has recently accelerated to levels that are close to the broader index.

REVENUE AND REVENUE GROWTH
(aggregate value weighted per share, $, last four quarters)



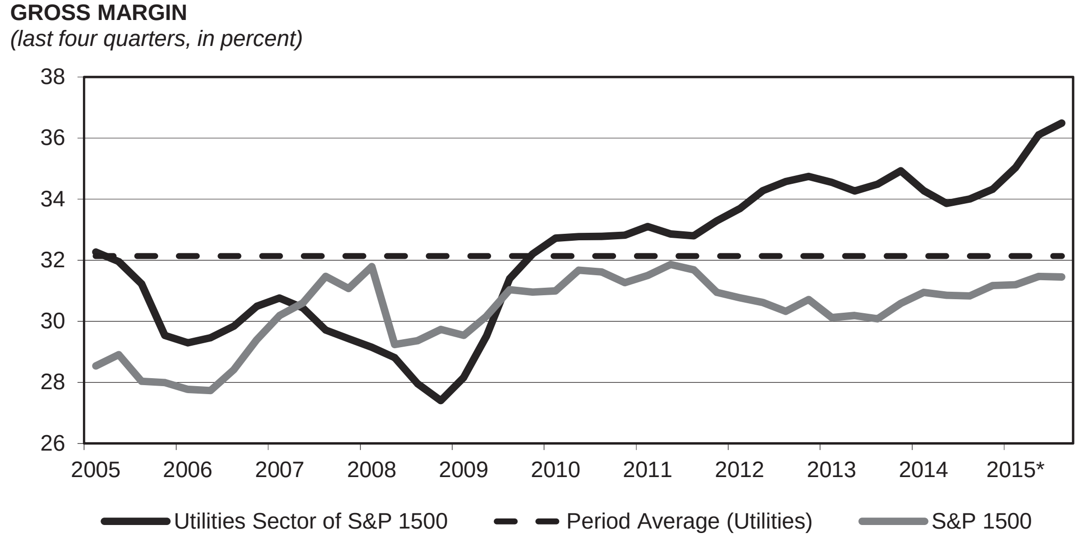
*Data through third quarter.

Source: S&P Global Market Intelligence.

Sector Profit Margins

Gross Margin

◆ From the fourth quarter of 2008 to the third quarter of 2015, the utilities sector's gross margin expanded by 908 bps to 36.5%.



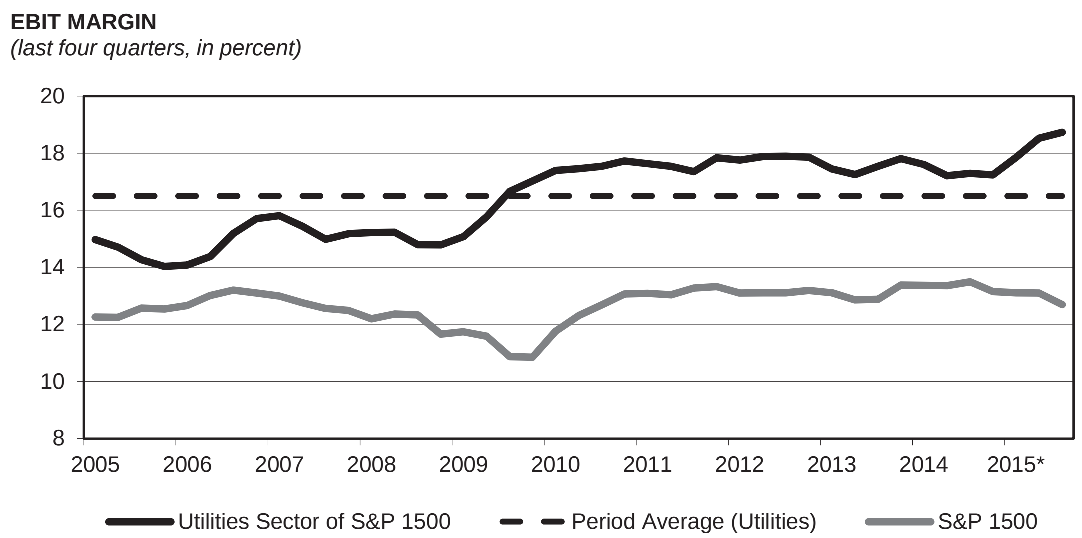
*Data through third quarter.

Source: S&P Global Market Intelligence.

◆ The utilities sector's gross margins have consistently been above those of the S&P 1500 since mid-2009. Looking forward, lower energy prices and higher utility rates could help further improve gross margins in 2016.

EBIT Margin

◆ For the past 10 years, earnings before interest and taxes (EBIT) margins for the utilities sector have been consistently above those for the S&P 1500. For a large portion of the sector, companies operate in a monopoly environment, allowing companies to spend less on marketing and customer retention. In addition, large portions of companies' assets are long-lived, allowing for long-term depreciation of the assets.



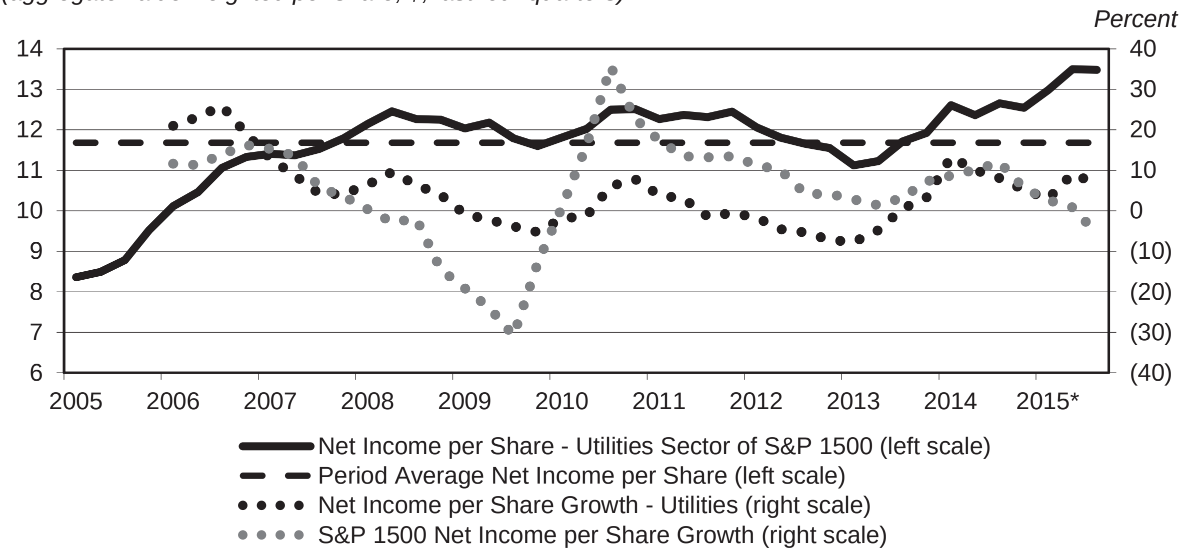
*Data through third quarter.

Source: S&P Global Market Intelligence.

Sector Earnings

◆ Net income growth in the utilities sector has not been as volatile as the rest of the S&P 1500, and the sector growth generally lagged that of the S&P 1500 over most of the observed period. Utilities companies generally see relatively steady growth in residential demand (the largest source of profit for utilities companies) for their products throughout the economic cycle, while industrial demand will change. This tends to make utilities earnings somewhat resistant to recession.

NET INCOME PER SHARE AND NET INCOME PER SHARE GROWTH
(aggregate value weighted per share, $, last four quarters)



*Data through third quarter.

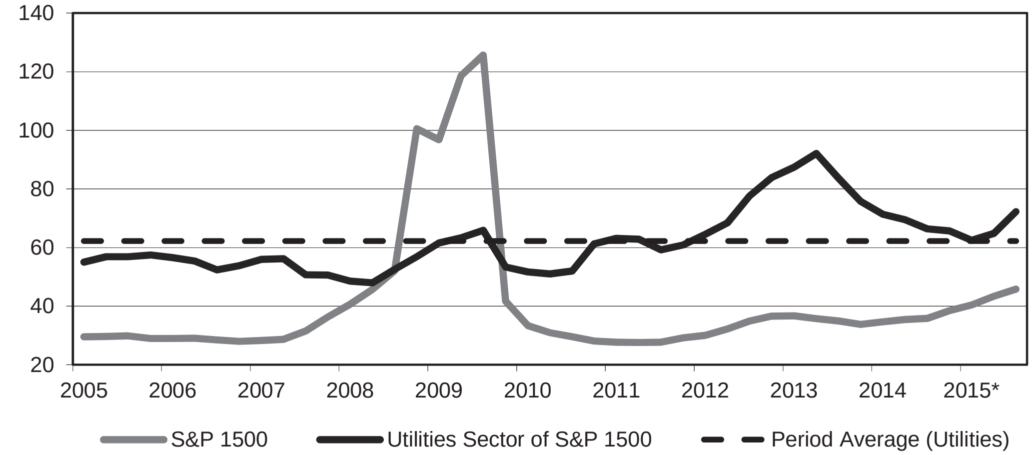
Source: S&P Global Market Intelligence.

◆ From a year-over-year perspective that illustrates the earnings volatility over the past decade, which includes the 2008–2009 recession, the utilities sector was less volatile as its growth exceeded the S&P 1500 during the 2007–2009 period, but fell short from 2010 to 2013. Utilities benefit from relatively steady product demand throughout the economic cycle from residential customers and regulated rates that are designed to allow utilities companies to earn a certain return on their capital invested. However, many companies in the utilities sector face exposure to variance in their earnings related to weather and the effect of the economy on commercial and industrial earnings.

Payout Ratio

◆ The utilities sector is known for maintaining relatively high payout ratios compared with the broader market. Since earnings growth may be constrained compared with sectors that introduce new products, such as health care or information technology, utilities tend to offer investors a higher dividend due to their relatively steady cash flows, lack of investment opportunities, and as an incentive to buy utilities shares.

PAYOUT RATIO
(last four quarters, in percent)



*Data through third quarter.

Source: S&P Global Market Intelligence.

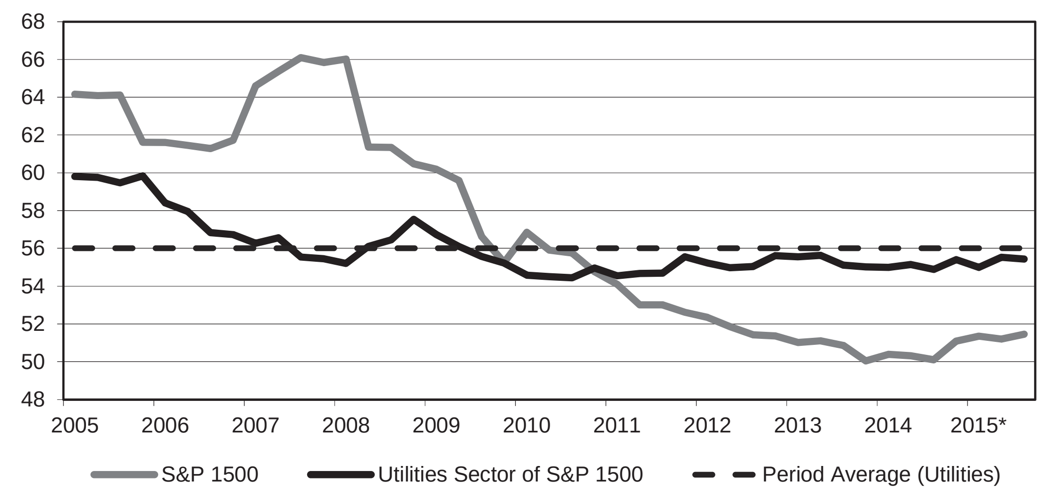
◆ Payout ratios for the utilities sector have been higher than the S&P 1500, with a 10-year average payout ratio of 62.2%for the sector, much higher than the S&P 1500, the average of which was significantly increased by low earnings per share (EPS) levels in late 2008 through 2009.

Sector Balance Sheet

Debt-To-Capitalization

◆ On the balance sheet, total debt-to-capitalization for the utilities sector has remained in a relatively tight 54–56% range since the second quarter of 2009. However, the ratio fell dramatically for the S&P 1500 from about 60% to the 50%–52% range during the same period.

DEBT-TO-CAPITALIZATION
(last four quarters, in percent)



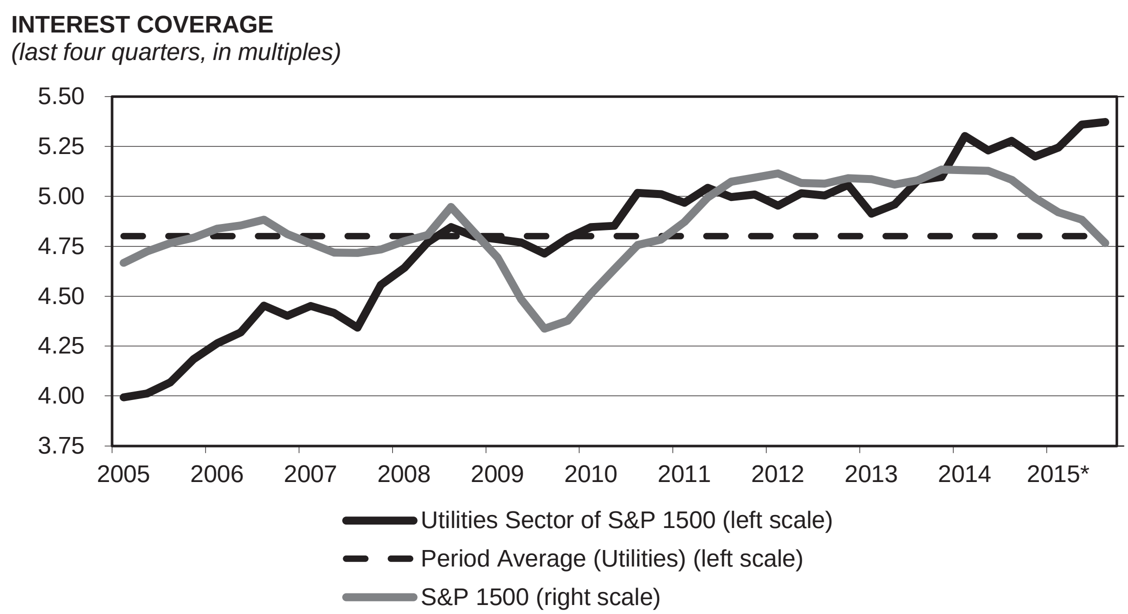
*Data through third quarter.

Source: S&P Global Market Intelligence.

◆ The utilities sector's relatively stable cash flows and earnings metrics allow the sector to maintain higher debt levels while still maintaining financial health. In addition, utility regulators often limit how much debt utility holding companies can accrue in order to assure the financial health of utility systems within their regulatory jurisdictions.

Interest Coverage

◆ Due to the utilities sector's relatively high capital intensity required to build and maintain large power plants and electric, gas, and water transmission and distribution equipment, debt levels are relatively high. Despite the corresponding low earnings before interest, taxes, depreciation, and amortization (EBITDA) to interest expense levels, the sector's ability to generate relatively steady and strong earnings and cash flows means that the sector remains financially healthy. Interest coverage levels for utilities have risen steadily since 2005, despite rising debt levels due to the completion of some cash acquisitions, increased maintenance spending on environmental controls, and capital investment in new power plants and transmission lines.



*Data through third quarter.

Source: S&P Global Market Intelligence.

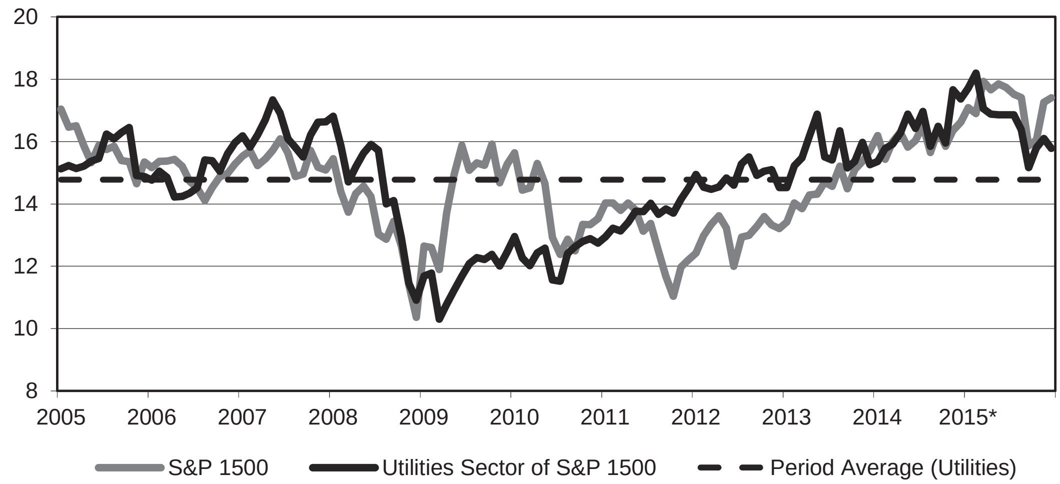
◆ Overall, these financial metrics show the sector is a steady performer. The sector did not exhibit the same volatility as other sectors, which is one reason the utilities sector is seen as defensive. In addition, the sector's commitment to dividends, shown through its high payout ratio, caters to investors who desire income-producing investments.

Sector Valuation

Forward P/E

◆ From a valuation perspective, the utilities sector's forward price-to-earnings (P/E) ratio is valued at a moderate premium to its long-term 14.8x average, helped by steady economic growth.

FORWARD PRICE-TO-EARNINGS RATIO
(in multiples)



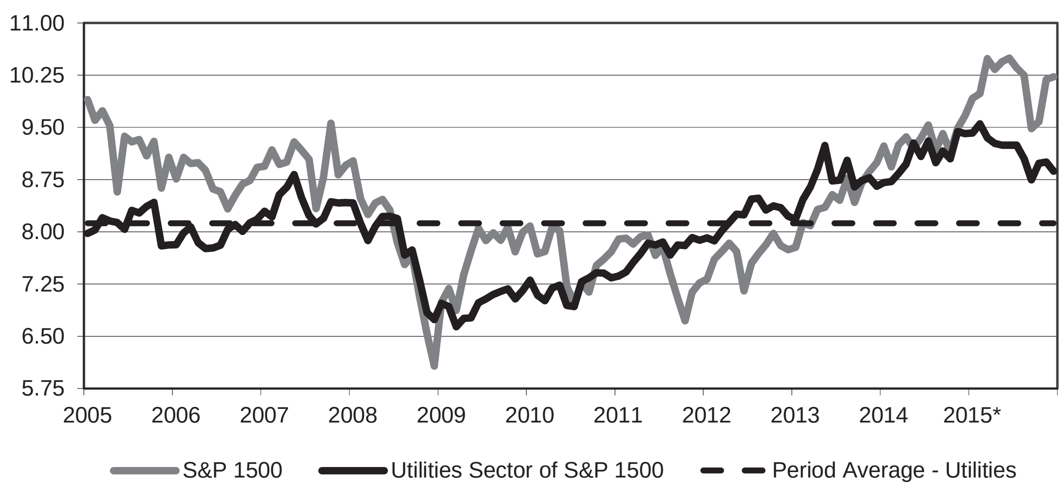
*Data through December.

Source: S&P Global Market Intelligence.

EV-To-EBITDA Ratio

◆ Overall, the utilities sector appears highly valued, which may be a concern given the sector's historical earnings growth relative to the rest of the S&P 1500. Recently trading at enterprise value (EV)-to-EBITDA levels of 8.9x, the utilities sector is trading well above its 8.1x average since 2005. Yet, it has risen more slowly than the multiple for the S&P 1500. Similar to the forward P/E ratio, this ratio has traded at a premium to the average since 2012, but during the prior four years, it was trading at a discount to the average, driven by the economic slump.

ENTERPRISE VALUE-TO-FORWARD EBITDA RATIO
(in multiples)



*Data through December.

Source: S&P Global Market Intelligence.

ETF Market Flows and Investing Landscape

◆ Investors interested in exploring opportunities aligned with either the utilities sector, or more specifically, the electric utilities industry, may want to consider exchange-traded funds (ETFs). In recent years, investors have increasingly turned to ETFs when seeking exposure to specific sectors or industries within the stock market. In addition to market focus, ETFs offer investors added benefits, such as intraday market liquidity and lower management fees relative to other diversified financial instruments.

◆ In 2014, $41.1 billion was added to all sector ETFs, although only $18.2 billion flowed in during 2015. A number of sectors experienced outflows in 2015, including $3.4 billion for utilities products.

SECTOR ETF INFLOWS
(total inflows for the period ended, in $, millions)

SECTOR	YEAR ENDED 2015	FIRST MONTH, 2016
Consumer Discretionary	3,161	(1,793)
Consumer Staples	(711)	661
Energy	9,823	1,075
Financials	659	(2,460)
Health Care	7,400	(721)
Industrials	(4,513)	(316)
Information Technology	3,601	(2,682)
Materials	475	55
REITs	1,692	701
Telecommunication Services	13	(10)
Utilities	(3,353)	916

Source: State Street Global Advisors.

◆ There are no dedicated electric utilities industry ETFs. However, the industry is the largest in many diversified sector ETFs. The weightings in the three largest, market-cap weighted products, iShares US Utilities (IDU), Utilities Select Sector SPDR (XLU), and Vanguard Utilities Index (VPU), all exceed 50% of assets.

ETFS WITH MEANINGFUL ELECTRIC UTILITIES EXPOSURE

COMPANY TICKER	ETF NAME	ASSETS UNDER MANAGEMENT *(in $, millions)*	NET EXPENSE RATIO
XLU	Utlities Select Sector SPDR	6,000	0.15
VPU	Vanguard Utilities	1,692	0.10
IDU	iShares US Utilities	594	0.45
FXU	First Trust Utilities AlphaDex	136	0.70
FUTY	Fidelity MSCI Utilities	128	0.12
RYU	Guggenheim S&P 500 Equal Weight Utilities	119	0.40

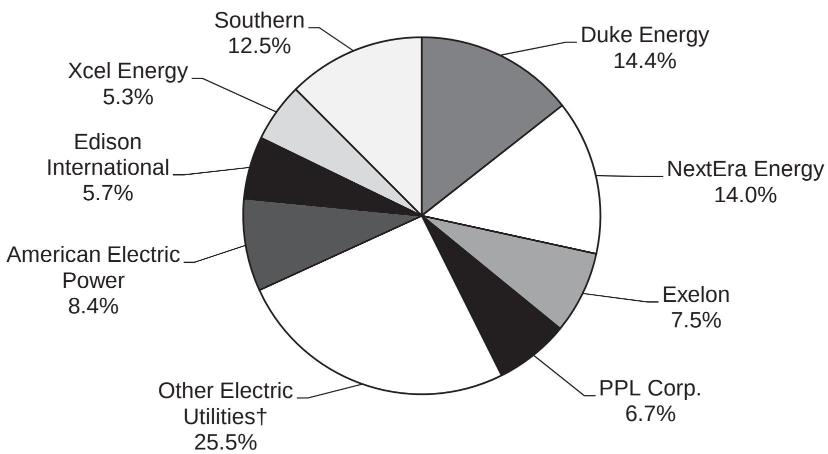
Source: S&P Global Market Intelligence ETF Report January 15, 2016.

◆ In 2015, all three of these products were unpopular with investors, with XLU and IDU each experiencing more than $1 billion in outflows. There are additional products to consider, including a fundamentally weighted First Trust offering, although it had $550 million in client withdrawals last year.

INDUSTRY OVERVIEW

◆ The electric utilities industry is somewhat fragmented, although there are several large companies. There are 22 electric utilities in the S&P 1500, and the five largest companies have a combined 56.8% market capitalization weighting, while the largest eight have 74.5%.

ELECTRIC UTILITIES MARKET CAPITALIZATION WEIGHTINGS* BY COMPANY

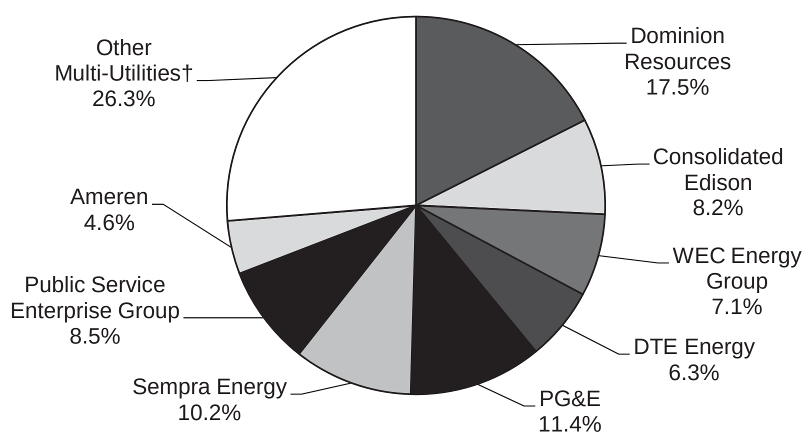


Total: $341.3 Billion

*Data as of December 31, 2015.

†Others include: Eversource Energy, FirstEnergy, Entergy, Pinnacle West Capital, Pepco Holdings, Westar Energy, OGE Energy, Great Plains Energy, IdaCorp, Cleco, Hawaiian Electric Industries, PNM Resources, ALLETE, and El Paso Electric.

MULTI-UTILITIES MARKET CAPITALIZATION WEIGHTINGS* BY COMPANY



Total: $229.6 Billion

*Data as of December 31, 2015. †Others include: CMS Energy, SCANA, CenterPoint Energy, Alliant Energy, TECO Energy, NiSource, MDU Resources Group, Vectren Corp., Northwestern, Black Hills, and Avista.

Source: S&P Global Market Intelligence.

◆ The electric utilities industry is comprised of companies that own regulated electric distribution utilities, each with a monopoly in its own service area for the delivery of electricity. In return for the monopoly status, local, state, and federal governments regulate the utilities. Some utilities own regulated generation assets for use in their systems, some own merchant generation to produce electricity for wholesale markets, and some do not own generating assets.

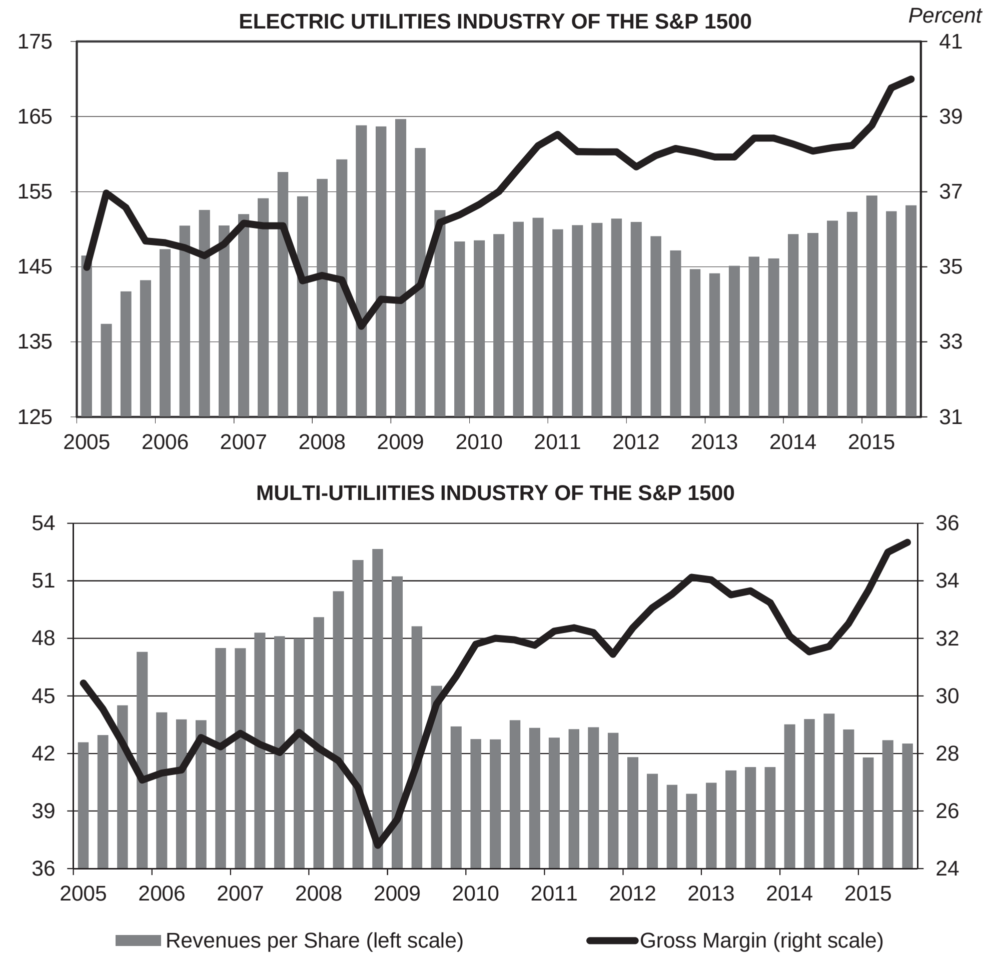
◆ Multi-utility companies are utilities that are comprised of both electric utilities and gas utilities. In 2014, gas utilities revenues within the multi-utilities industry were only 24.4%. As a result, multi-utilities' economic fortunes are very similar to those of the electric utilities industry. In the following Industry Overview sections, where there are any significant differences between electric utilities and multi-utilities, we will provide a brief commentary.

Industry Revenues

Revenues

◆ Over the past five years, the electric and multi-utilities industries' annual aggregate value-weighted revenues per share have been affected by weather patterns in the US. The drop in total revenues during 2012 corresponded with the acquisition of Constellation Energy by Exelon Corp. and the integration of Constellation's trading operations into Exelon's business. However, S&P Global Market Intelligence thinks hot summer weather in 2015 helped revenues to grow further.

REVENUE PER SHARE AND GROSS MARGIN
(aggregate value weighted per share, $, last four quarters)

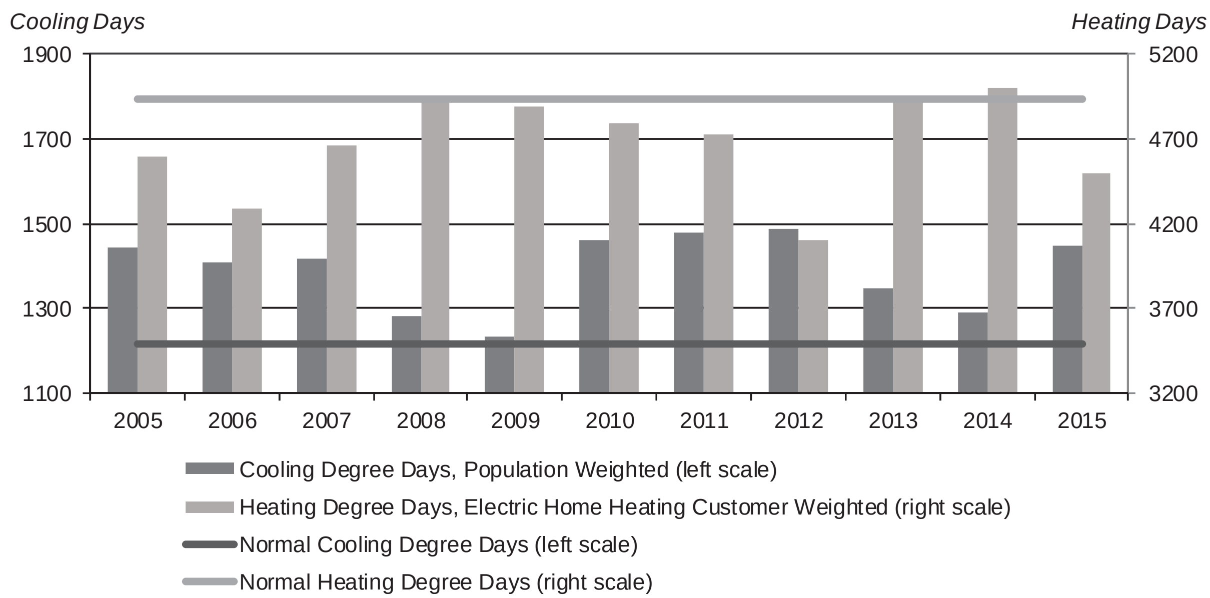


Source: S&P Global Market Intelligence.

◆ Base revenue growth is benefitting from improving industrial revenues driven by a slowly improving economy, rate increases driven by significant levels of capital spending on replacing aging infrastructure, new power plants, and new transmission lines, according to analysis by S&P Global Market Intelligence. Strong economic growth through 2009 helped revenues grow until the recession, and summer weather during 2008–2009, which was cooler than prior years, led to a drop in revenues.

◆ While the electric and multi-utilities industries will likely continue to benefit from rate increases and an improving economy, cooling degree days have remained above normal for an extended period of time, and there is a risk of significant pressure on revenues if summer weather returns to normal or falls below normal in the next few years. Investors may be getting used to the prolonged weather benefit.

COOLING AND HEATING DEGREE DAYS IN THE US



Sources: National Oceanic and Atmospheric Administration, National Weather Service, and Climate Prediction Center.

Gross Margins

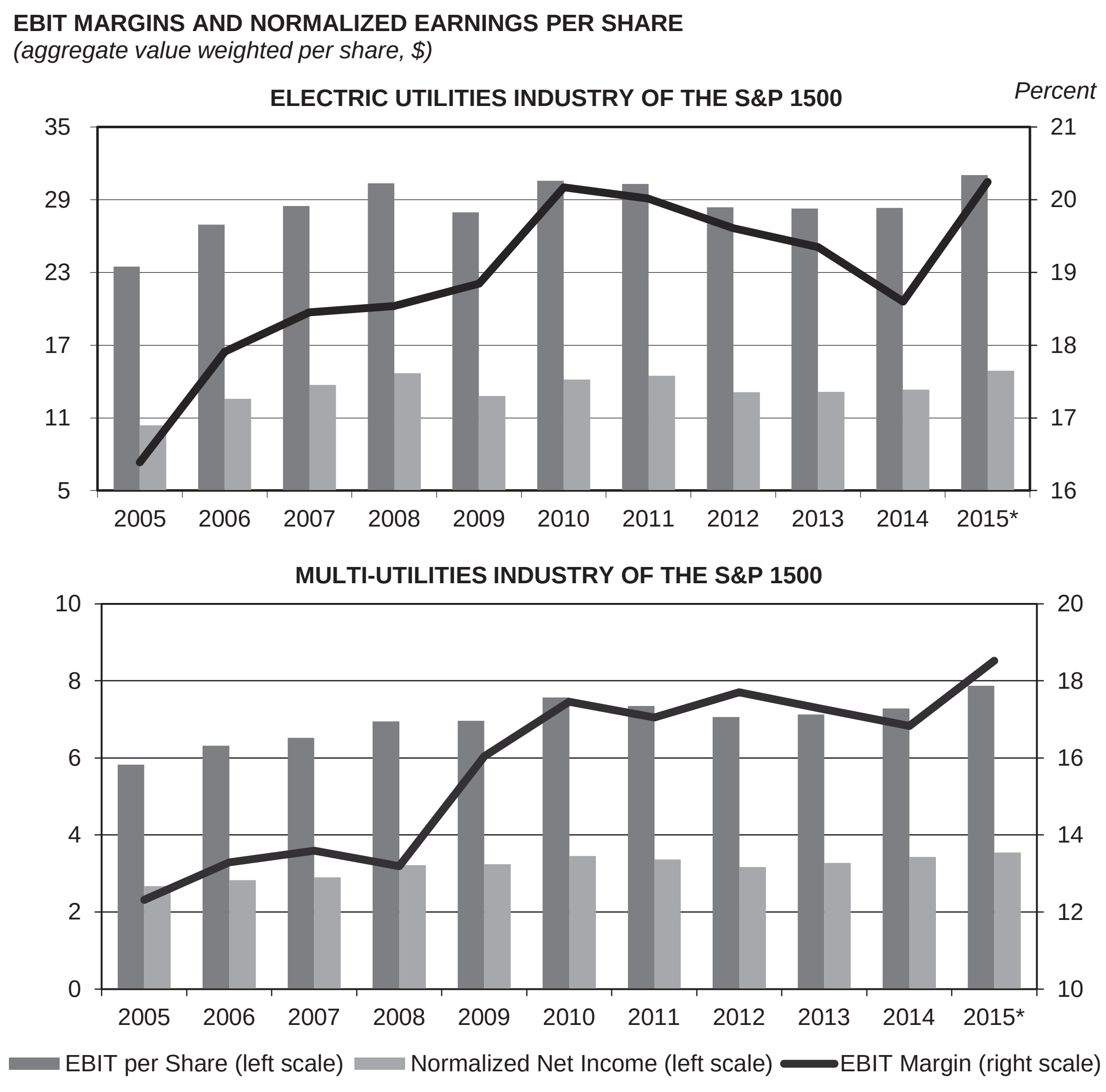
◆ Electric and multi-utilities benefited from the falling costs of fuel and purchased power in recent years. Prices of coal for use in electric power plants have increased slightly since 2008 from about $40 per ton to the mid- to upper-$40 range. In 2015, S&P Global Market Intelligence thinks lower coal, gas, and oil prices had a positive effect on margins. Gross margins for multi-utilities, while they are similar in directional moves to electric utilities, reflect the lower margins of the gas businesses owned by these companies.

◆ It is unlikely that falling fuel and purchased power costs will be a major industry driver going forward, but S&P Global Market Intelligence thinks fundamentals will keep natural gas and coal prices from rising much in 2017. With that said, as coal plant retirements begin to occur because of recent Environmental Protection Agency (EPA) regulations and low gas prices, there could be downward pressure on future coal prices and upward pressure on natural gas prices.

Industry Profits

EBIT Margin

◆ Due to the inability to create growth through the introduction of new products, electric utilities are always striving to control costs. As a result, earnings growth often exceeds revenue growth. Multi-utilities earnings before interest and taxes (EBIT) margins track electric utilities margins fairly well, but the lower margin levels reflect the industry's ownership of lower margin gas utilities.



*Data for year ended in the third quarter.

Source: S&P Global Market Intelligence.

◆ In recent years, several large acquisitions in the electric utilities industry yielded significant merger savings for the acquirer. Improving EBIT margins will likely be tied to future merger and acquisition (M&A) activities, with several major deals expected to close in 2016.

◆ Profits will also likely begin to improve for unregulated generating assets of electric utilities. There are many coal-fired power plants slated for closure over the next several years. As total electric demand growth outstrips capacity growth (due to the effect of the closures), S&P Global Market Intelligence expects profitability to improve for the remaining plants.

Net Income

◆ Net income has tracked EBIT relatively closely. S&P Global Market Intelligence saw net income rose in 2014, largely due to rate increases, customer growth, improving industrial sales, and lower interest expense. Approved rate increases totaled about $2.0 billion in 2014, according to SNL, a source of utility sector data. We see 2015 and 2016 being affected by higher interest costs due to high capital spending levels and higher operating expenses.

◆ Going forward, assuming a return to normal summer temperatures, S&P Global Market Intelligence thinks net income will come under pressure. However, we continue to expect rate cases to play a significant role, as we estimate that rate increases totaled about $1.0 billion in 2015. In addition, we see customer growth beginning to increase as the economy slowly improves.

◆ Overall, S&P Global Market Intelligence thinks net income for the electric utilities industry will be pressured in 2016 and possibly 2017, but subsequently will return to a more normal growth rate in the 3%–5% range. S&P Global Market Intelligence sees this increase mostly driven by customer growth, rate increases, and continued improvements in industrial sales as the economy slowly grows. We expect similar pressures on multi-utilities, but think the multi-utility industry will likely fare better if there is colder winter weather in 2016 or 2017.

Dividends per Share

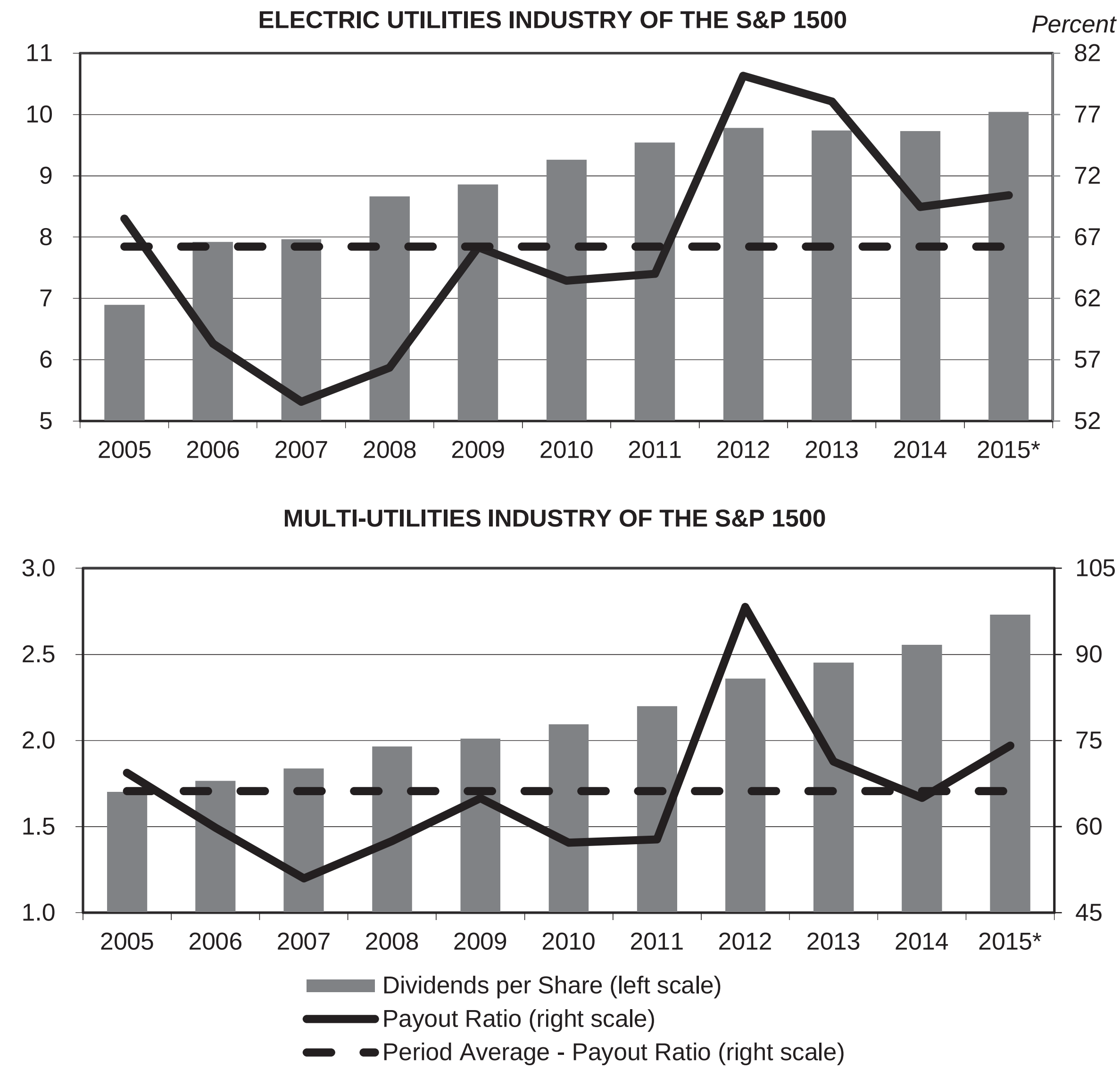
◆ Trailing 12-month dividends have generally been rising faster than earnings per share (EPS) since 2007. Many companies in the electric utilities and multi-utilities industries have been shedding more risky unregulated operations, or reducing the scope of their unregulated operations in order to manage their risk more easily. As the earnings quality of these companies has improved, their managements have targeted higher dividend payout ratios.

◆ Dividends remain an important factor when investing in electric utilities. Rising interest rates are a potential source of pressure on electric utilities stocks. However, electric utilities stocks have benefited from low interest rates and steadily growing dividends and earnings.

◆ Electric utilities yields of the S&P 1500 utilities sector were 3.8% on January 12, 2016, compared with a 10-year treasury yield of 2.2%. If interest rates increase 0.3% over a period of one year and dividends increased 4.0% in the same period, then shares would have to fall 2.4% to maintain the spread between the 10-year treasury and the electric utilities company yield. However, if rates rose 0.5%, then shares would have to fall 8.0% to maintain the spread. The speed of future interest-rate increases and the slope change of the yield curve will likely determine how much of an impact these changes will have.

◆ S&P Global Market Intelligence estimates that electric utilities dividends will rise at a rate of about 3% to 4% in 2016, and then grow faster in subsequent years. Some electric utilities companies have been increasing their targeted dividend payout ratios. However, we do not see dividends growing as fast as EPS for the near-term, particularly since the largest company, Exelon, will likely maintain its existing dividend payment for the next year or so.

DIVIDENDS PER SHARE AND PAYOUT RATIO
(aggregate value weighted per share, $)



*Data for year ended in the third quarter.

Source: S&P Global Market Intelligence.

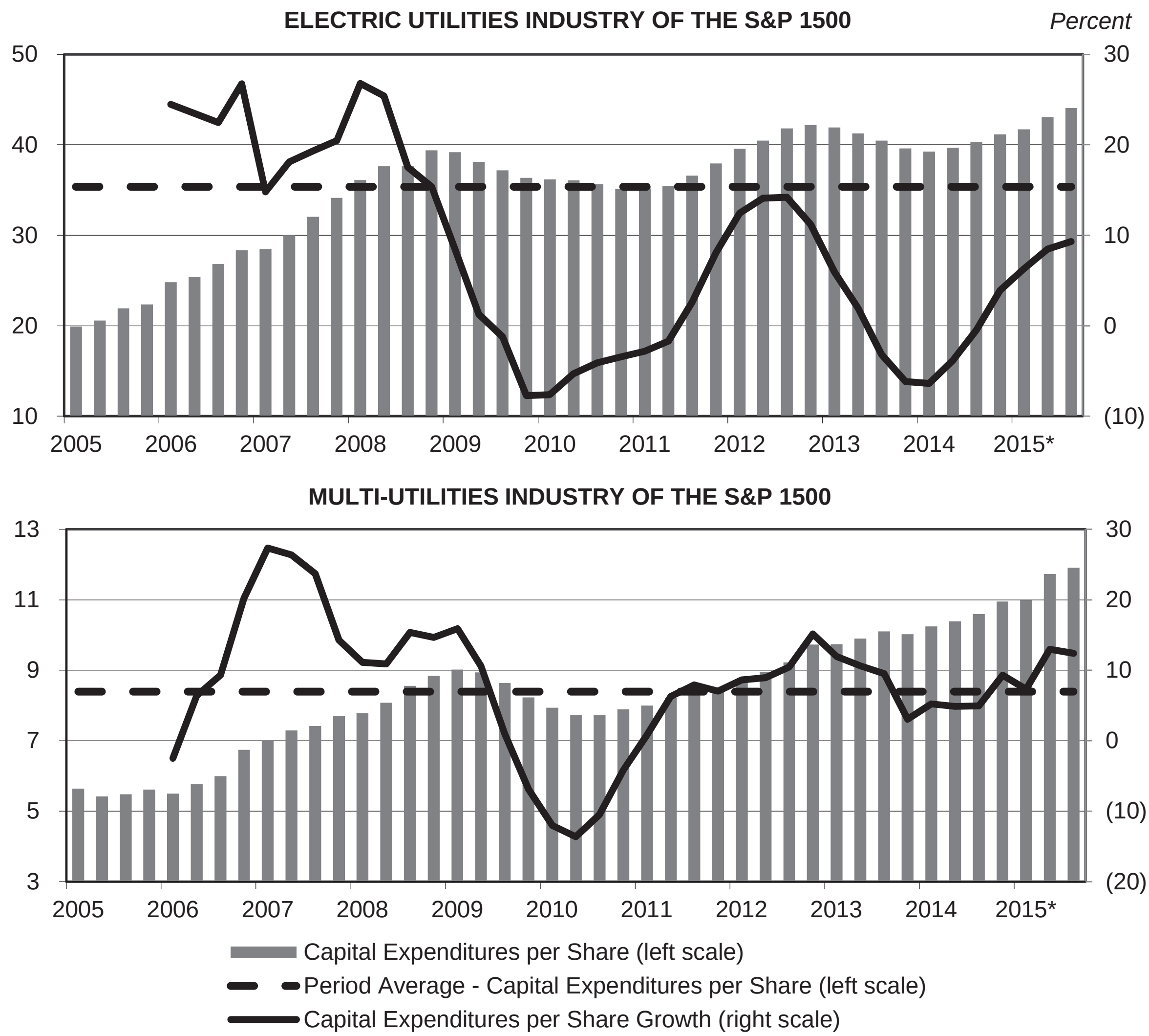
Industry Capital Expenditures

Capital Expenditures

◆ Electric utilities companies are constantly facing a growing customer base that uses more and more electricity. To meet the challenge, the electric utilities industry can invest in new assets to generate and deliver power, or it can promote customer efficiency. Efficiency efforts are often only a temporary measure to reduce demand growth, delaying when new power plants might be needed. Other capital spending targets grid modernization and replacement of aging infrastructure assets.

◆ While investments in regulated assets are guaranteed a set rate of return through a company's regulated customer rates, investments in merchant power plants are subject to the market forces in which they operate. As a result, unregulated merchant power plants are often a riskier proposition. However, in some markets, especially in the Northeast, much of the generation fleet has become deregulated. Some companies try to enter into long-term power supply contracts that reduce risks related to the merchant assets.

CAPITAL EXPENDITURES
(aggregate value weighted per share, $, last four quarters)



*Data for year ended in the third quarter.

Source: S&P Global Market Intelligence.

◆ Capital expenditures have risen significantly since 2005, and S&P Global Market Intelligence expects them to remain at relatively high levels. Southern Co. is building new nuclear generation that will likely drive high capital spending levels for the company through 2018. Other companies are also investing in new natural gas-fired combined-cycle power plants to meet rising demand. In addition, many companies are investing in expensive solar and wind generating assets to meet renewable power requirements set by state regulators.

◆ New electric transmission projects are also a source of capital spending, though they tend to have lower capital requirements than a new electric power plant. Interstate transmission lines are regulated by the Federal Energy Regulatory Commission (FERC) and benefit from a formula-based ratemaking process that provides more certainty about the projects' profitability.

◆ Multi-utility company capital spending levels are much lower than the electric utility levels within the S&P 1500, but the growth is similar. Within the S&P 1500, some of the largest multi-utilities, such as PG&E Corp., Sempra Energy, or Consolidated Edison, do not own significant generating assets. As a result, capital spending needs are much lower for the multi-utilities in the index.

◆ S&P Global Market Intelligence expects capital spending levels to remain high, as companies prepare for new environmental regulations that seem likely to reduce coal-fired capacity even more. This reduction in coal capacity is likely to drive increased spending on new combined-cycle natural gas-fired power plants. We also see additional state renewable power generation requirements driving more spending on wind and solar.

Industry Balance Sheet

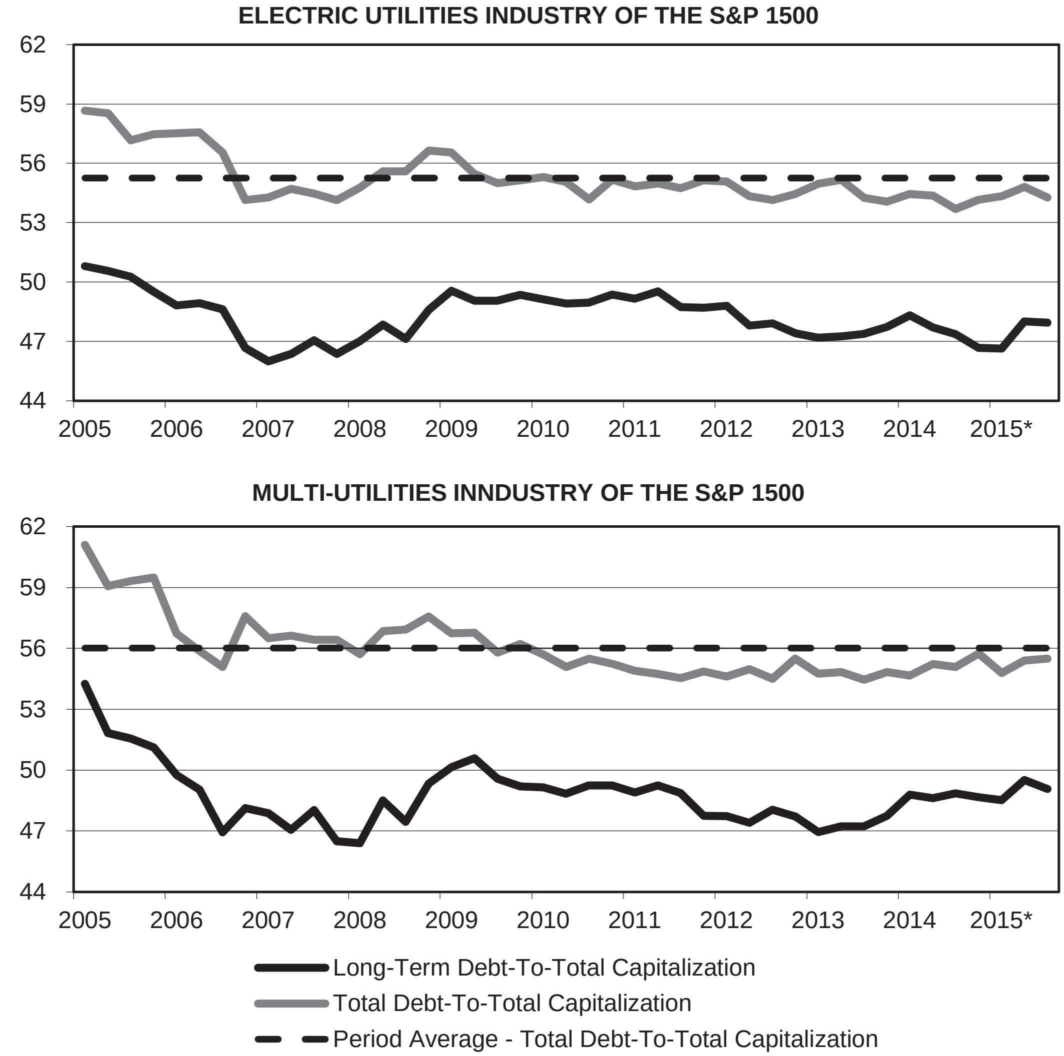
Long-Term Debt-To-Capitalization

◆ Over the past six years, the aggregate value-weighted per share long-term debt-to-capitalization ratio for electric utilities in the S&P 1500 trended downward (falling from 49.5% to 46.7% at the end of 2014), but crept upward in the third quarter of 2015 to 48.0%. S&P Global Market Intelligence thinks the decline was driven by relatively high cash generation levels, allowing some companies to keep debt levels in check.

◆ The ratio will likely rise somewhat in 2016 once Exelon's acquisition (pending approvals) of Pepco Holdings is completed, as the acquisition totals $6.9 billion in cash. However, S&P Global Market Intelligence expects to see levels falling again after that. Multi-utilities debt levels were close to electric utilities levels over the past few years

◆ Ratios below 47% are not likely to last long, in S&P Global Market Intelligence's view. As debt ratios strengthens, we think companies will likely turn more to share repurchases for utilization of excess cash flows. In general, the electric utilities industry maintains relatively high debt-to-capitalization ratios when compared with other industries, due to the industry's ability to generate solid and steady cash flows.

DEBT-TO-CAPITALIZATION RATIOS
(in percent, quarterly)



*Data for year ended in the third quarter.

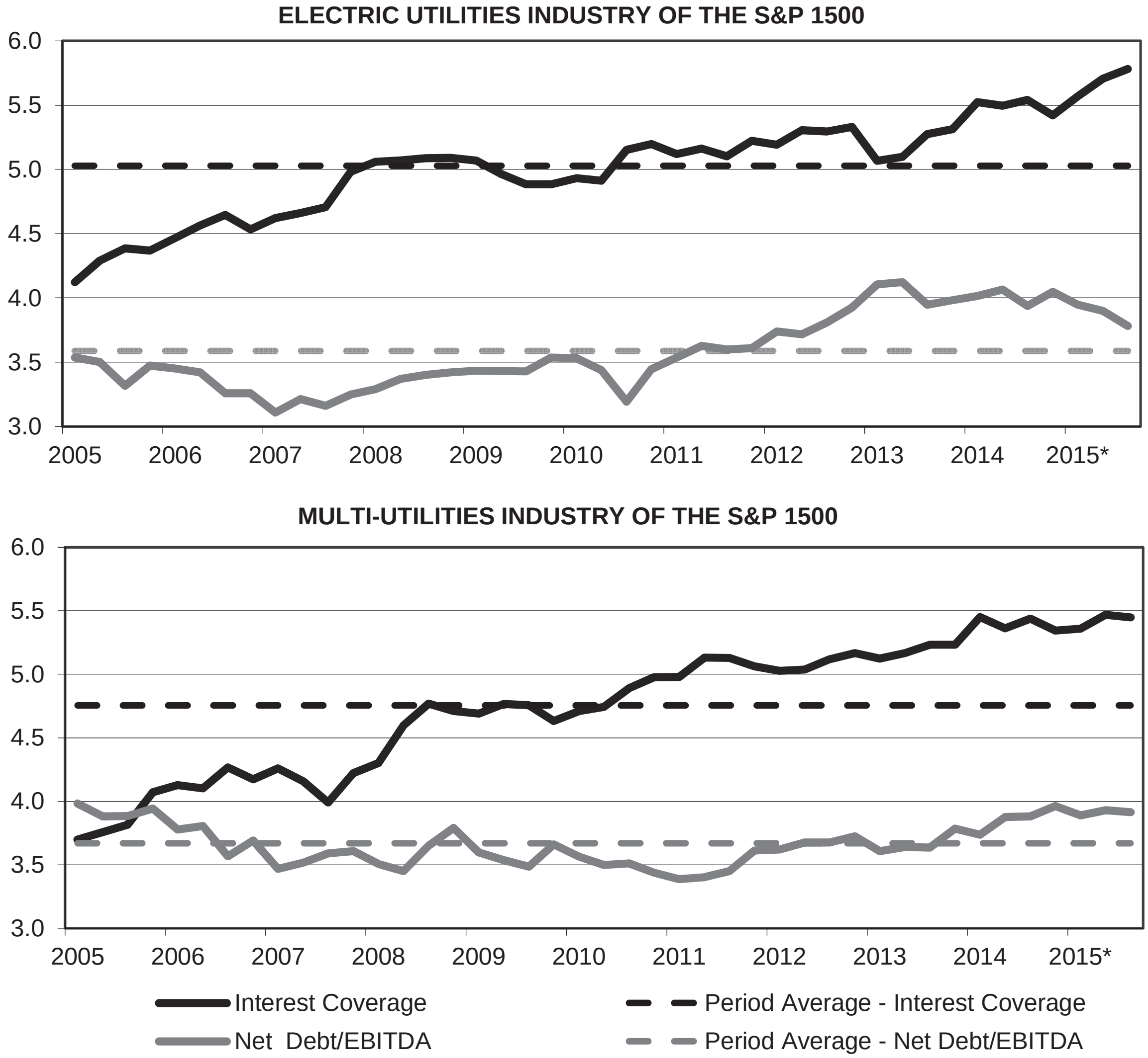
Source: S&P Global Market Intelligence.

Debt Maintenance

◆ Interest coverage ratios strengthened steadily over the past ten years. While low interest rates had a positive impact on the measures, S&P Global Market Intelligence also thinks that the lower capitalization measures helped. Despite the improvements in interest coverage, net debt-to-EBITDA levels for electric utilities weakened slightly, rising from 3.5x in 2005 to about 3.8x in the third quarter of 2015.

◆ Most large electric utilities mergers are completed using the acquirer's shares, or a combination of shares and cash. However, the announced acquisition of Pepco by Exelon is an all-cash deal valued at $6.9 billion. S&P Global Market Intelligence thinks this will put some temporary upward pressure on the industry's debt and interest expense levels, as we expect Exelon's debt balances to increase more than 30%, excluding the acquired debt following the merger.

DEBT MAINTENANCE
(in multiples, last four quarters)



*Data for year ended in the third quarter.

Source: S&P Global Market Intelligence.

◆ As debt levels for the electric utilities industry rise with heavy capital spending, interests costs rise as well, pressuring the interest coverage ratio. In addition, as debt levels increase, cash levels decline, or EBITDA falls, and EBITDA-to-net-debt worsens. Higher debt levels due to heavy capital spending or lower EBITDA driven by weather that is more moderate would likely lead to lower interest coverage or higher net debt-to-EBITDA levels.

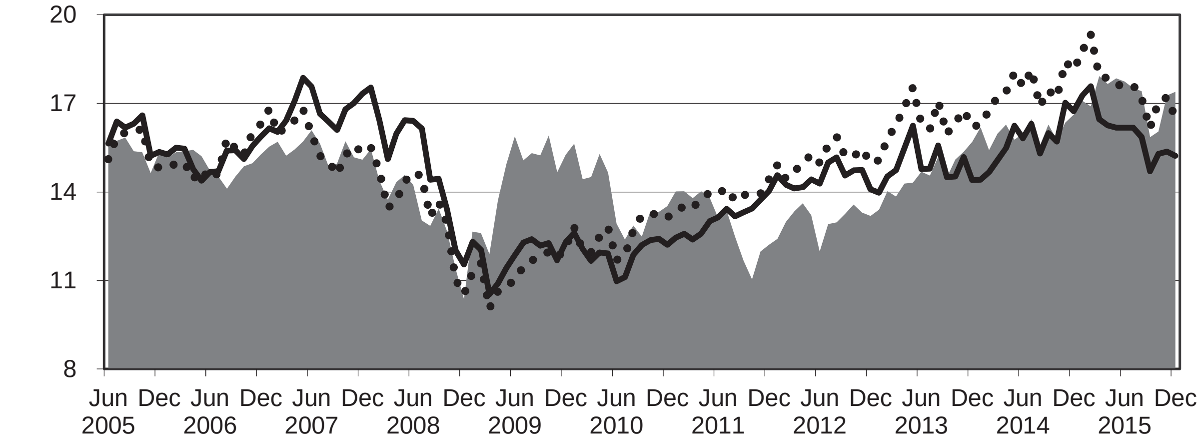
◆ After a decrease in the net debt-to-EBITDA level in 2015, S&P Global Market Intelligence expects it to remain nearly flat for the following few years as we think Exelon could focus on post-merger debt reduction.

Industry Valuation

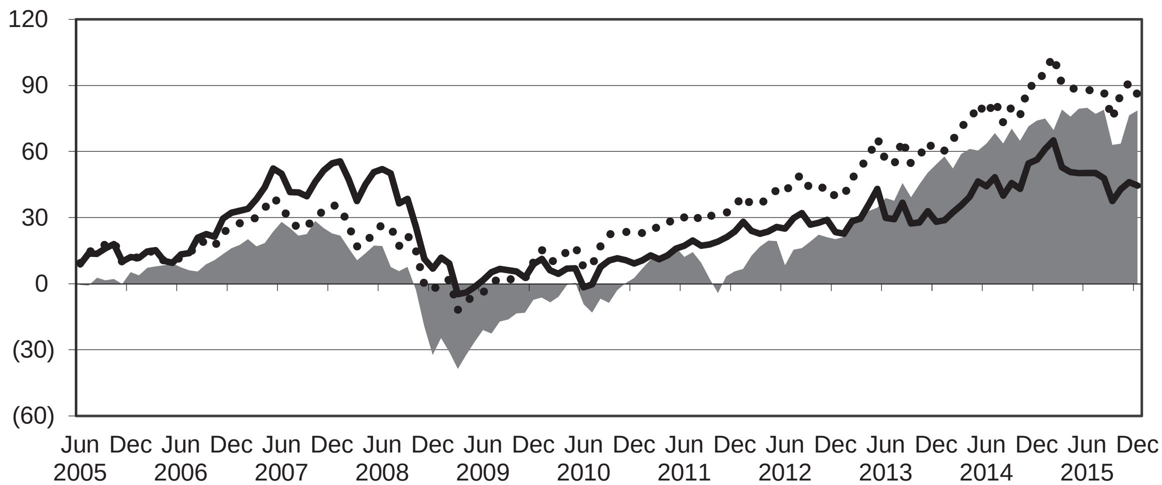
P/E Ratios

◆ The aggregate value-weighted per share forward price-to-earnings (P/E) ratio has risen steadily since March 2009. Following the recession, prices of electric utilities stocks recovered over time as EPS and market sentiment improved. In 2015, prices of electric utilities stocks fell early in the year on the threat of higher interest rates, but recovered with improving economic indicators.

FORWARD PRICE-TO-EARNINGS RATIO
(in multiples, monthly forward)



INDEX RELATIVE PERFORMANCE
(Index value, January 1, 2005 = 100)



S&P 1500
Electric Utilities Industry of the S&P 1500
Multi-Utilities Industry of the S&P 1500

Source: S&P Global Market Intelligence.

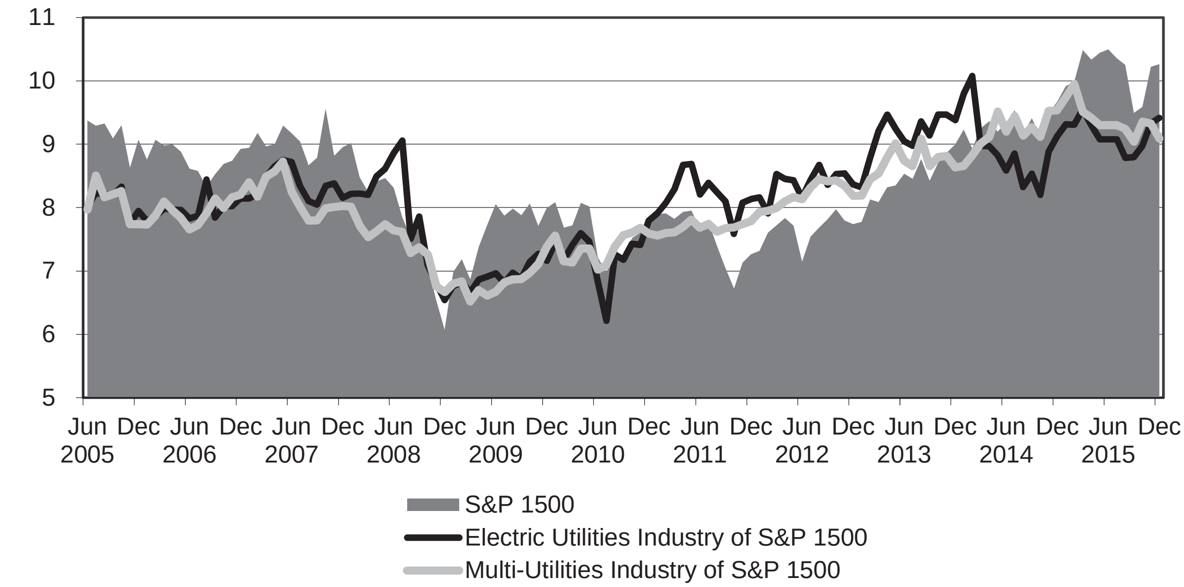
◆ Since 2009, multi-utilities have outperformed electric utilities, helped by higher exposure to natural gas and other businesses. Electric utilities stocks have been pressured due to concerns over the Clean Power Plan. While we see the plan leading to an increasing rate base, especially for vertically integrated regulated utilities, we see utilities with merchant coal and nuclear plants facing pressure from low natural gas prices.

◆ As of early 2016, S&P Global Market Intelligence thinks that forward P/E ratios for electric utilities are in more normal ranges than in mid-2015, on the back of a slowly growing economy coupled with the threat of higher interest rates.

TEV/Forward EBITDA

◆ The aggregate value-weighted per share total enterprise value (TEV)-to-EBITDA ratio in both the electric utilities and multi-utilities industries has also risen since 2009 for many of the same reasons. S&P Global Market Intelligence thinks these ratios are somewhat high, given the risks to earnings and interest rates.

ENTERPRISE VALUE-TO-FORWARD EBITDA
(in multiples, forward 12 months EBITDA)

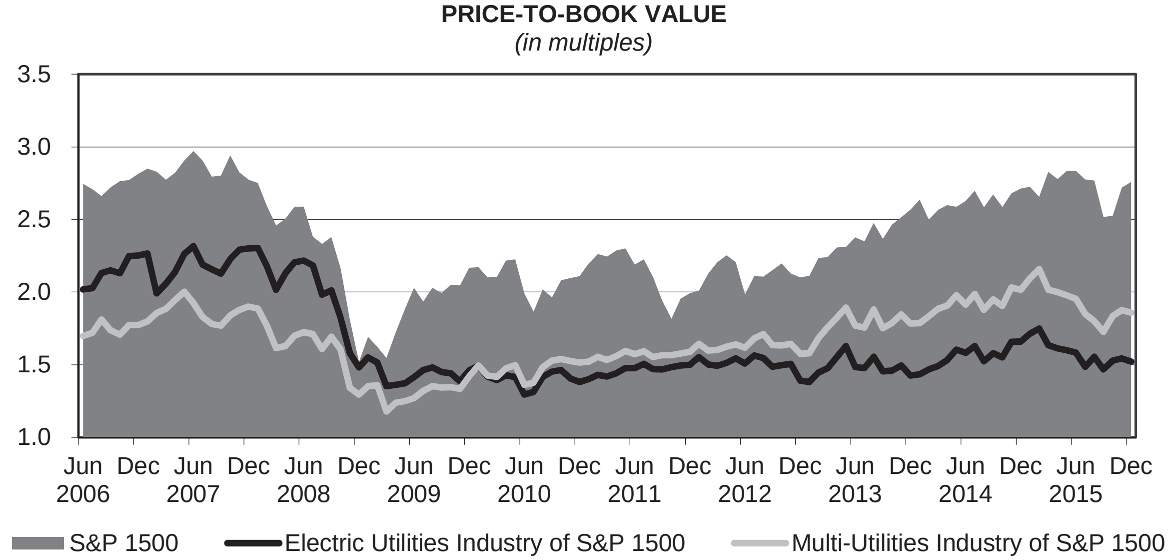


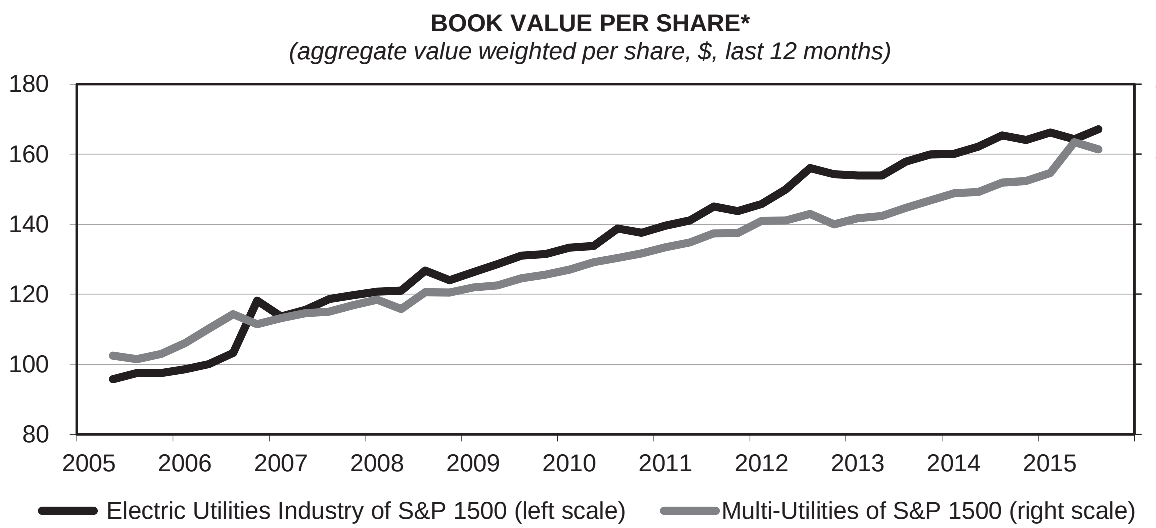
Source: S&P Global Market Intelligence.

Price-To-Book Ratio

◆ While not commonly used to value electric utilities, price-to-book value is still important to monitor. While the S&P 1500's price-to-book value has climbed steadily back to pre-recession levels, the ratio for the electric utilities industry has remained stuck at about 1.5x due to pressure on stock prices from the Clean Power Plan, and it is likely to remain near these levels for the near future. The ratio for multi-utilities has grown since 2009, helped by rising stock prices.

BOOK VALUE METRICS





*Data starts from second quarter of 2005 through third quarter of 2015.

Source: S&P Global Market Intelligence.

Book Value per Share

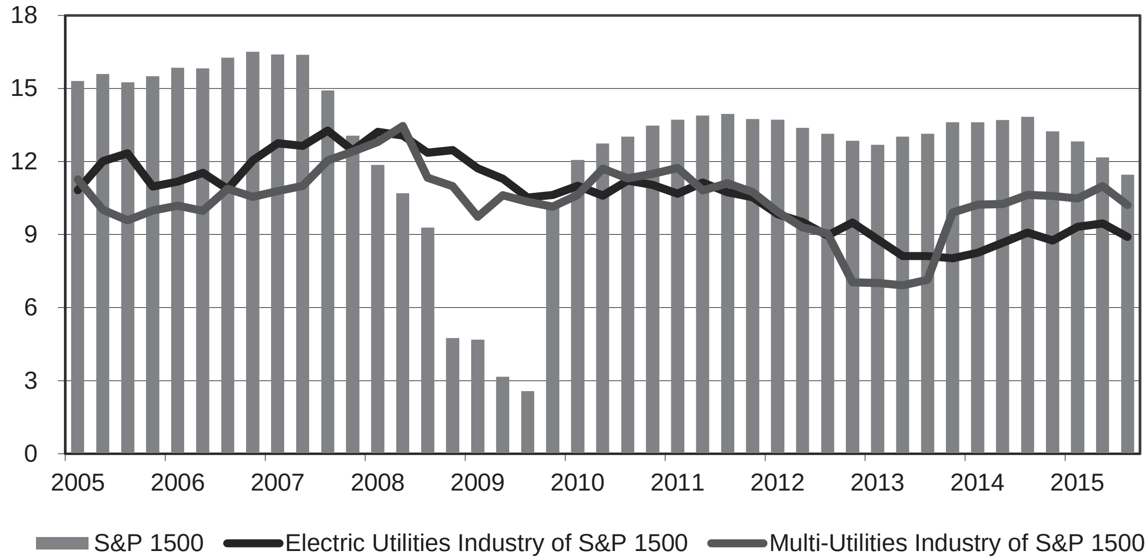
◆ Since 2005, the aggregate value-weighted book value per share has steadily increased at a compound annual growth rate of 5.5% for electric utilities and 4.7% for multi-utilities. Strong industry profitability and cash flows are helping drive the increase in common equity. S&P Global Market Intelligence sees book value per share continuing its steady climb over time as the electric utilities industry increases its earnings.

Return on Equity

◆ Return on equity (ROE) for the electric utilities industry has fallen since 2008. S&P Global Market Intelligence thinks that falling debt-to-capitalization ratios have hurt ROE, and that falling allowed ROEs in subsidiary rate cases over the past five years have also had an adverse effect. (Allowed ROEs are targets set by regulators to provide targets for utility earnings—see

How to Analyze a Company in This Industry section). Some companies have divested their riskier, but higher-return, businesses, which has also put downward pressure on ROEs.

RETURN ON COMMON EQUITY
(in percent, last 12 months)



Source: S&P Global Market Intelligence.

◆ ROEs for the electric utilities industry will likely remain somewhat stagnant in the 9%–10% range for the next few years. However, over the long term, as interest rates rise, S&P Global Market Intelligence thinks regulators will have to increase allowed ROEs for the regulated subsidiaries, creating a boost for industry returns.

Capital Markets

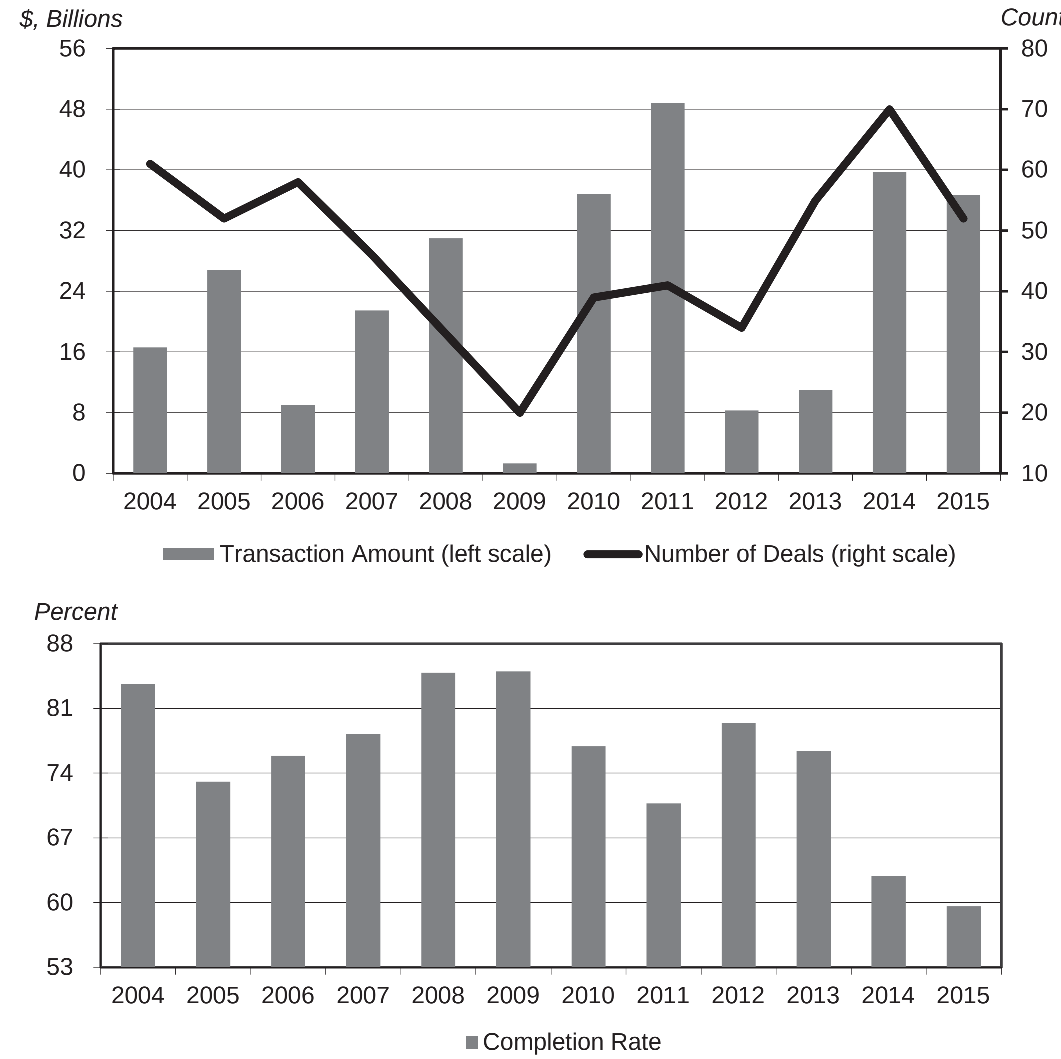
Utilities Sector

◆ Announced utilities M&A deals involving S&P 1500 companies as target, buyer, or seller saw $36.7 billion in transaction value in 2015, down from the record $39.7 billion in 2014.

◆ Results in 2014 marked the second-best showing with regard to deal value over the past 11-years, topped only by the $48.8 billion recorded in 2011.

◆ The largest announced M&A deal in the utilities sector in 2014 involving an S&P 1500 company was Exelon Corp. seeking to acquire Pepco Holdings Inc. in a transaction valued, with assumed liabilities, at $12.6 billion, or nearly 32% of the deal value of all announced utilities M&A deals in 2014. The deal, announced in April 2014, is still awaiting regulatory approval, which usually takes a year or more to attain.

UTILITIES M&A TRANSACTIONS*



*Involving S&P 1500 companies as target, buyer, or seller.

Source: S&P Global Market Intelligence.

◆ The top deal in 2015 involving an S&P 1500 company was Southern Co. entering into a definitive merger agreement to acquire AGL Resources in a transaction valued, with assumed liabilities, at $12 billion on August 23, 2015. Under the terms of the agreement, Southern Co. will acquire 120 million shares at a price of $66 per share.

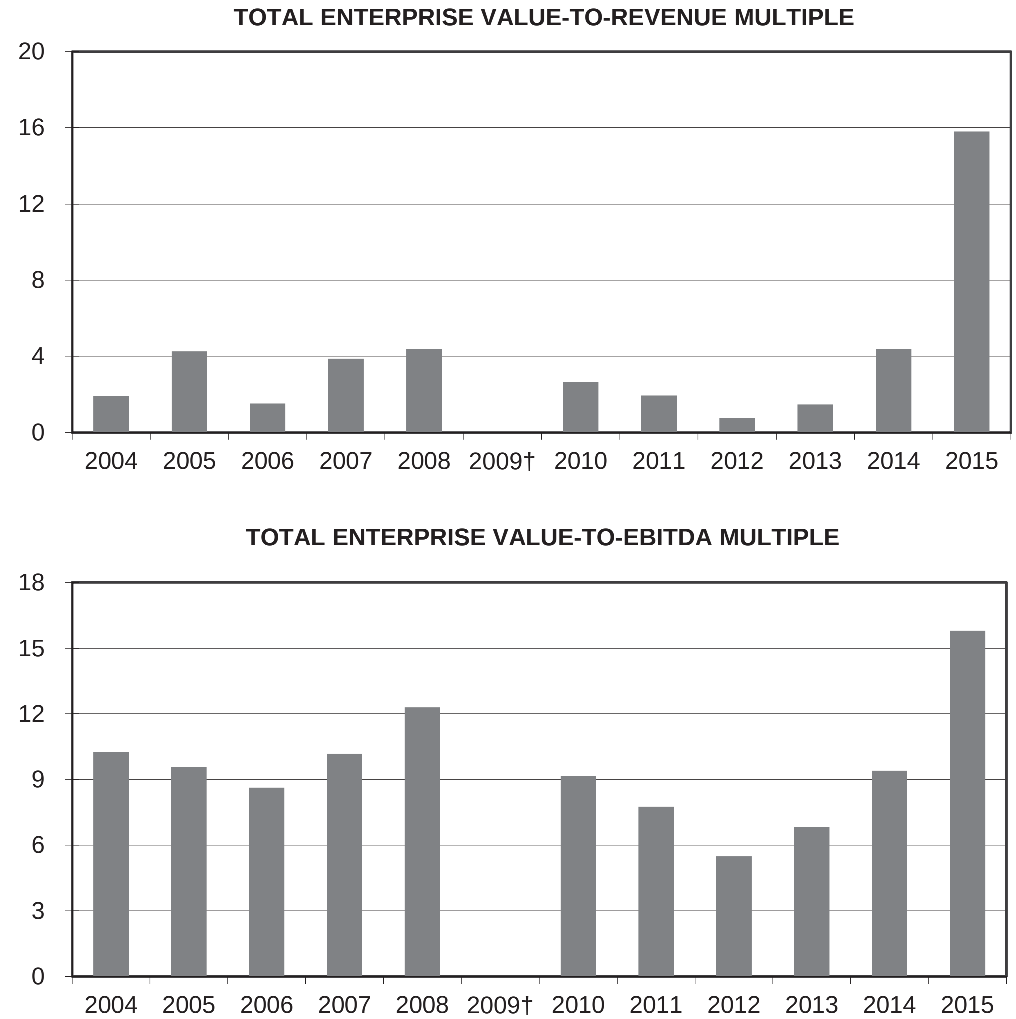
◆ Based on deal count, announced M&A transactions in the utilities sector, with S&P 1500 companies as target, buyer, or seller totaled 52 announced deals in 2015, down from the 70 announced deals in 2014.

◆ The completion rate for announced utilities sector M&A deals with S&P 1500 involvement, defined as deals announced and completed in the same calendar year, dropped to 60% in 2015, less than the 63% rate in 2014.

◆ The high point for the completion rate for utilities M&A deals involving S&P 1500 companies was in 2009, when 85% of the announced deals that year were completed in the same calendar year.

◆ A typical utilities sector M&A transaction announced in 2015 was 15.8, up from 9.4 in 2014 and 6.8 in 2013. In 2015, the multiple was the highest since 2008, when it reached 12.3x.

UTILITIES M&A VALUATION RATIOS*



*Involving S&P 1500 companies as target, buyer, or seller. †Data in the signified year is zero.

Source: S&P Global Market Intelligence.

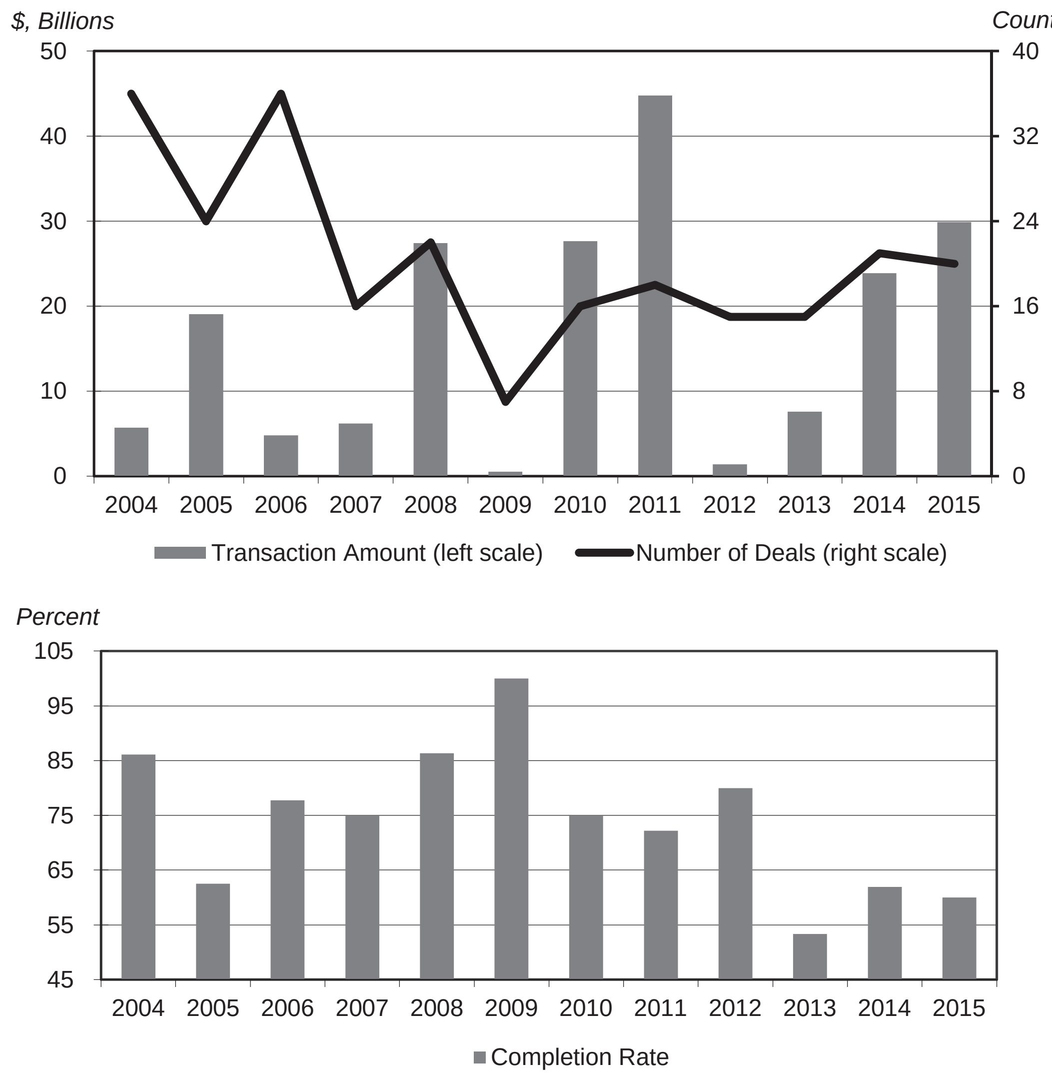
◆ The average disclosed multiple based on EBITDA was 15.8x for transactions announced in 2015, up from 4.4x in 2014.

Electric Utilities Industry

◆ The leading M&A deal in 2014 in the electric utilities industry involving S&P 1500 companies was that of Exelon's proposed acquisition of Pepco.

◆ In 2015, announced electric utilities M&A deal value involving S&P 1500 companies reached $29.9 billion, the best year for transactions since 2011 when deal value topped $44.0 billion.

ELECTRIC UTILITIES M&A TRANSACTIONS*



*Involving S&P 1500 companies as target, buyer, or seller.

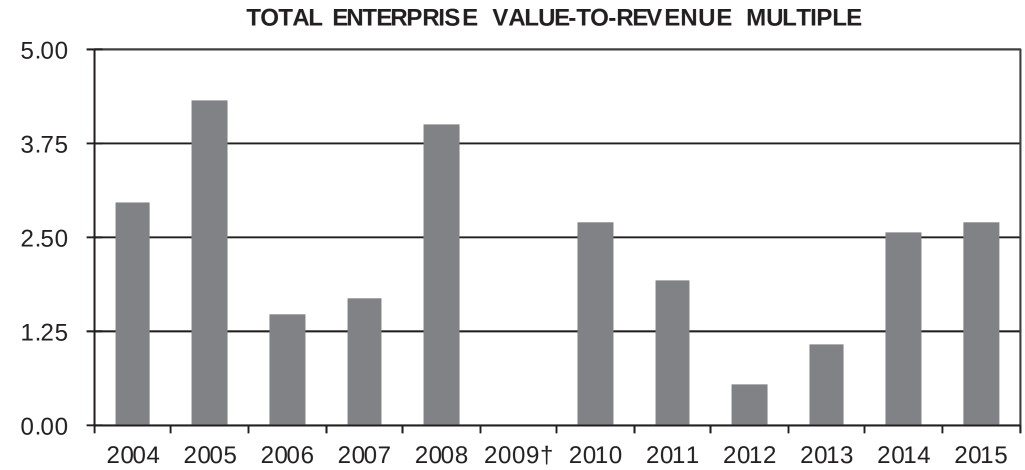
Source: S&P Global Market Intelligence..

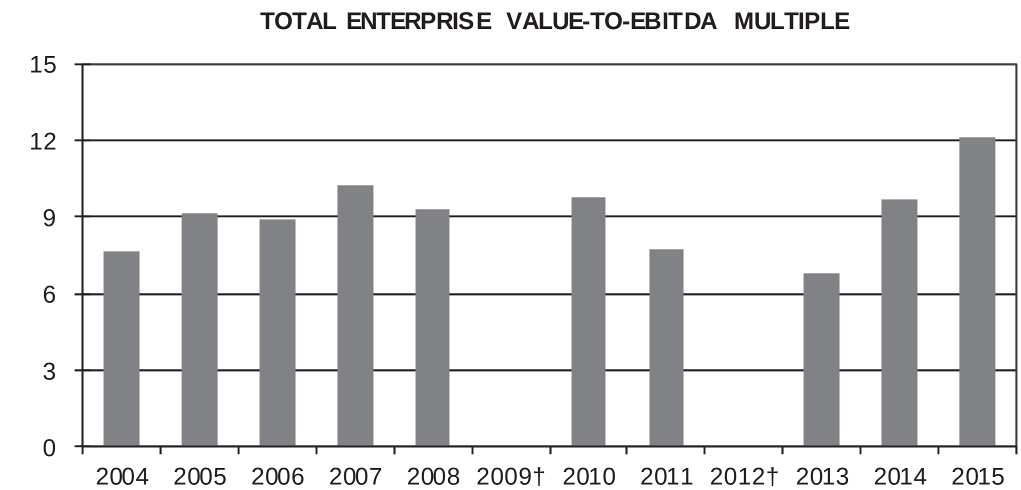
◆ Deal count for announced M&A transactions in the electric utilities industry involving S&P 1500 companies reached 21 deals in 2014, the best year since 2008 when 22 deals occurred. In 2015, there were 20 announced transactions, according to S&P Global Market Intelligence data.

◆ Since hitting a multiyear low in 2012, deal valuations in the electric utilities industry based on deal value to revenue has steadily risen on an annual basis; the 2.7x multiple in 2015 was the highest since 2010 when it reached 2.7x.

◆ Average deal valuations in the electric utilities industry based on deal value-to-EBITDA has moved higher; the average multiple of 12.1x in 2015 was the highest average annual deal valuation since 2004.

ELECTRIC UTILITIES M&A VALUATION RATIOS*





*Involving S&P 1500 companies as target, buyer, or seller. †Data in the signified year is zero.

Source: S&P Global Market Intelligence.

◆ In 2015, the completion rate for M&A transactions in the electric utilities industry involving S&P 1500 companies eased to 60% as 12 out of 20 deals were completed in the same year they were announced.

RECENT M&A TRANSACTIONS
(top transactions in terms of size for the past six months)

ANNOUNCED DATE	CLOSED DATE	TARGET	BUYERS/ INVESTORS	SIZE ($M)
8/24/15	-	AGL Resources	Southern	12,002
10/26/15	-	Piedmont Natural Gas	Duke Energy	6,589
10/1/15	11/12/15	AEP Resources	American Commercial Lines	550
7/24/15	8/5/15	Northeast Expansion	UIL Holdings	1
12/9/15	12/3/15	Border Wind Farm in Rolette County, North Dakota	Xcel Energy	-
10/22/15	10/22/15	Phoenix Energy Technologies	Duke Energy	-

Source: S&P Global Market Intelligence.

PRIVATE PLACEMENT TRANSACTIONS
(top transactions in terms of size for the past six months)

ANNOUNCED DATE	CLOSED DATE	TARGET	BUYERS/ INVESTORS	SIZE ($M)
10/15/15	-	Hawaiian Electric Industries	-	50
8/31/15	12/9/15	GreenSmith Energy	American Electric Power, E.ON SE	18

Source: S&P Global Market Intelligence.

REGISTRATIONS AND OFFERINGS
(top transactions in terms of size for the past six months)

ISSUER	REGISTRATION FILED	OFFER DATE*	PRIMARY TRANSACTION FEATURES	SECURITIES ISSUED	SIZE ($M)
Southern	11/23/15	-	Shelf Registration	Common Stock	1,583
Southern	10/1/15	10/1/15	Fixed-Income Offering	Corporate Debt (Non-Convertible)	875
NextEra Energy	9/10/15	9/11/15	Composite Units Offering	Composite Unit, Corporate Debt (Non-Convertible), Options	693
Duke Energy	11/16/15	11/16/15	Fixed-Income Offering	Corporate Debt (Non-Convertible)	598
Cleco	10/29/15	-	Shelf Registration	Common Stock, Corporate Debt (Non-Convertible)	500
Duke Energy	11/16/15	11/16/15	Fixed-Income Offering	Corporate Debt (Non-Convertible)	404
Westar Energy	11/5/15	11/5/15	Fixed-Income Offering	Corporate Debt (Non-Convertible)	299
Westar Energy	11/5/15	11/5/15	Fixed-Income Offering	Corporate Debt (Non-Convertible)	250
Entergy	8/25/15	-	Shelf Registration	Common Stock	201
Exelon	8/19/15	-	Shelf Registration	Common Stock	150
PNM Resources	8/4/15	-	Shelf Registration	Common Stock	74
ALLETE	11/6/15	-	Shelf Registration	Common Stock	16
Exelon	10/29/15	-	Fixed-Income Offering	Corporate Debt (Non-Convertible)	-
Edison International	9/17/15	-	Shelf Registration	Corporate Debt (Non-Convertible)	-

*Offer date is only available for a given transaction if a prospectus has been filed with the SEC for that transaction.
Source: S&P Global Market Intelligence.

◆ Of the 22 electric utilities companies in the S&P 1500, only five have activist investor ownership stakes of more than 2%.

ACTIVIST STAKES
(latest annual)

COMPANY NAME	INDEX CONSTITUENTS	ACTIVIST INVESTORS (PERCENT OWNED)
El Paso Electric	S&P SmallCap 600 Index	10.67
PNM Resources	S&P MidCap 400 Index	8.27
Cleco	S&P MidCap 400 Index	4.02
OGE Energy	S&P MidCap 400 Index	3.96
Westar Energy	S&P MidCap 400 Index	2.11

Source: S&P Global Market Intelligence.

◆ NextEra Energy, Inc. ranks as the leading electric utility in the S&P 1500 in terms of cash holdings, with nearly $8 billion.

CASH BALANCE LEADERS
(latest annual, in $, millions)

COMPANY NAME	INDEX CONSTITUENTS	TOTAL CASH & SHORT-TERM INVESTMENTS	LONG-TERM INVESTMENTS	TOTAL
NextEra Energy	S&P 500 Index	1,181	6,805	7,986
Exelon	S&P 500 Index	7,265	620	7,885
Duke Energy	S&P 500 Index	1,376	506	1,882
Entergy	S&P 500 Index	1,041	511	1,552
OGE Energy	S&P MidCap 400 Index	43	1,273	1,316
Southern	S&P 500 Index	1,120	9	1,129
Hawaiian Electric Industries	S&P MidCap 400 Index	229	786	1,015

Source: S&P Global Market Intelligence.

INDUSTRY TRENDS

Competitive Environment

Investor-owned, cooperative, municipal, state, and federal utilities, as well as power-generating companies that are not classified as utilities constitute the US electric power industry as defined by the Edison Electric Institute (EEI), the association of US investor-owned electric companies. As this definition includes independent power producers and non-publicly traded companies, it is slightly broader than the electric utilities industry defined by S&P Global Market Intelligence. In 2015, investor-owned utilities represented approximately 70% of the US electric power industry, according to EEI.

The market capitalization of investor-owned utilities totaled $632 billion (for 55 companies) at the end of 2014 (latest available), up 25.4% from $504 at the end of 2013 and $464 billion at the end of 2012, according to EEI's industry data.

Major changes have been occurring in the industry. Historically, the regulated investor-owned utilities had exclusive franchises to provide vertically integrated electric services to retail customers—usually within a given state, in contiguous areas spanning one or more states, or both. However, the monopolistic, tightly regulated utilities created under trust-busting legislation more than 60 years ago have become increasingly exposed to competition, particularly in the generation and wholesale power markets, due to changes brought about by the National Energy Policy Act (NEPA) of 1992. (For details, see the "How the Industry Operates" section of this *Survey*.)

Operating Environment

EPA's Pollution Rules Challenge the Industry

On June 23, 2014, the Supreme Court ruled that the US Environmental Protection Agency (EPA) can require greenhouse gas (GHG) controls on power plants and other fixed sources of pollution. Currently, EPA regulations require power plants to obtain permits and adopt GHG controls when modifying an existing facility or when building a new one. Justice Antonin Scalia said that the ruling allowed the agency to regulate facilities responsible for 83% of GHG emissions from stationary pollution sources. However, most of the 189 GHG permits issued will not be undone by the ruling, according to the EPA.

With a goal of combating climate change and improving public health, the EPA finalized on August 3, 2015 the Clean Power Plan Rule to cut carbon pollution from existing power plants, which are said to be the largest stationary source of carbon pollution in the US. While coal plant retirements will continue and utilities will likely switch some of that coal-fired generation to cleaner-burning natural gas, the costs will likely be borne by the consumer, making the new proposals manageable for utilities, according to analysis by S&P Global Market Intelligence. For new and reconstructed natural gas plants, the emission limit is 1,000 pounds of CO2 per megawatt-hour on a gross-output basis (lb CO2/MWh-gross)—applicable to all sizes of base load units. For new coal-fired power plants, gross emission should not be more than 1,400 lb CO2/MWh-gross. This is less stringent than the proposed standard of 1,100 CO2/MW gross, according to the EPA. The EPA added that the final standard is achievable by new fossil fuel-fired steam generating units for all fuel types. This reflects information and comments with regard to the cost of implementing carbon capture and storage (CCS) on a new unit.

The EPA is not setting a standard for modified natural gas power plants as of its final ruling on August 3, 2015. As for modified coal-fired power plants, EPA determined that the "Best System of Emission Reduction" for modified units is based on each unit's best potential performance. The agency is not setting a standard for units that make smaller modifications A unit that has larger modifications, however, will be required to meet a standard consistent with its best historical annual performance from 2002 to the time of modification.

In the event that stringent carbon emissions regulations are put into place, S&P Global Market Intelligence thinks the additional costs imposed on utilities that burn coal will translate into higher prices paid by retail power customers. Costs to generate electricity will likely go up in the affected utility's service area. However, utilities will likely benefit in the long run as they invest in new power plants, because these investments and the purchases of emissions credits will increase their rate base or recoverable expenses. As the rate base rises, utilities will seek rate relief from their regulators—leading to higher rates and earnings per share (EPS).

New EPA Rules Restricting Pollution Levels Implemented

In 2016, the EPA announced that through the Clean Power Plan, it will work closely with states and stakeholders to help create strong plans to reduce carbon pollution. The Agency said it is confident that the Clean Power Plan will stand the test of time, as the Supreme Court has ruled three times that the EPA has not only the authority but the obligation to limit harmful carbon pollution under the Clean Air Act.

In addition, the EPA reported that the Paris Agreement and the Clean Power Plan are helping mobilize private capital worldwide toward low-carbon investments. Rules such as the Clean Power Plan show that working toward a low-carbon future is inevitable, and that the market will reward those who develop low-carbon technologies and make their assets resistant to climate impacts. This is why companies such as Walmart, AT&T, Facebook, and Coca-Cola are acknowledging that climate impacts threaten their operations, while investing in a low-carbon future is an unprecedented business opportunity, according to the EPA.

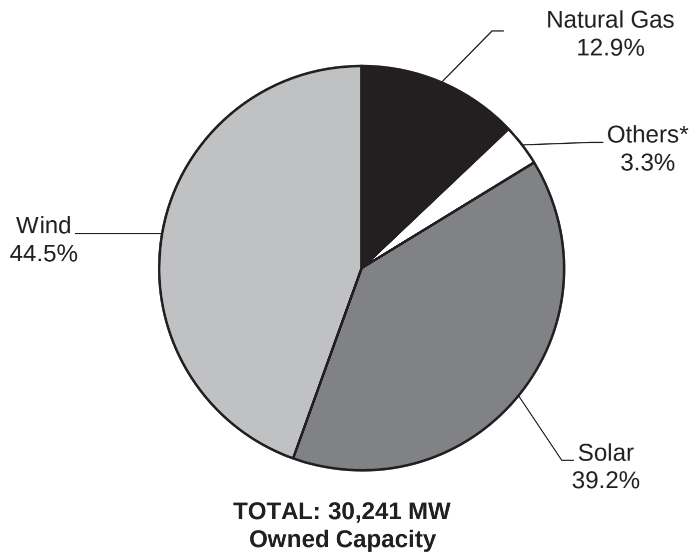
Wind Power, Solar, and Other Generation Additions

Wind and solar generation capacity have low rates of capacity utilization—a third to a fifth as great as fossil fuel technologies, according to Public Utilities Fortnightly, a trade publication. Because of this, three to five times as many megawatts of renewables capacity must be installed, compared with the megawatts of fossil fuel capacity being replaced, to produce equivalent megawatt-hours of electrical energy.

In the past decade, the electric utilities industry has not been building many coal plants in the US. Most of the new power plant capacity additions came from wind and natural gas. For new coal plants to be competitive, natural gas prices must increase beyond $7 per million Btu. However, the US Energy Information Administration (EIA) projects in its Annual Energy Outlook report (released in April 2015) that natural gas prices will remain below $6 per million Btu for the next two decades. Hence, the EIA does not expect new coal plants to be built between 2018 and 2035, once the CCS demonstration projects are finished.

Aside from the decline in coal capacity, nuclear capacity is also expected to decline in the coming years. Between 2014 and 2024, nuclear capacity is expected to decline from 9,942.0 MW to 8,897.7 MW in the Northeast Power Coordinating Council (NPCC) and from 33,927.0 MW to 28,984.9 MW in the Reliability First Corporation (RFC), according to data available at www.SNL.com. (The SNL platform is owned by S&P Global Market Intelligence.) The expected decline in coal and nuclear capacity will contribute to the natural gas reliance of NPCC and RFC. Natural gas capacity is expected to increase from 30,089.5 MW to 34,756.3 MW in NPCC and from 61,877.0 MW to 76,993.3 MW in RFC.

POWER PLANTS UNDER DEVELOPMENT BY PRIMARY FUEL TYPE
(early and advanced development stage, units in service for 2016)



*Others include:

Biomass Waste	0.19%
Biomass Wood	0.10%
Other Biomass Gas	0.12%
Distillate Fuel Oil	0.05%
Gas	0.13%
Geothermal	0.21%
Landfill Gas	0.07%
Waste Coal	0.99%
Waste Heat	0.31%
Water	1.15%
Others	0.10%

Source: SNL Financial.

US POWER PLANT CAPACITY PROJECTIONS
(all regions, in megawatts)

FUEL TYPE	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	10-YEAR CAGR *(in percent)*	TOTAL CHANGE 2014-2024
Biomass	14,565	14,743	14,987	15,331	15,600	15,732	15,735	15,735	15,735	15,735	15,735	0.8	1,169
Coal	303,690	288,977	283,560	279,965	278,638	278,638	277,722	278,572	278,572	278,572	278,572	(0.9)	(25,119)
Gas	469,363	469,704	479,810	506,501	535,271	546,625	549,884	551,130	551,130	552,530	552,530	1.6	83,167
Geothermal	3,015	3,085	3,150	3,212	3,267	3,342	3,671	3,731	3,781	3,781	3,781	2.3	766
Nuclear	101,282	101,310	102,660	102,660	102,660	104,250	106,477	106,837	105,685	104,524	104,713	0.3	3,431
Oil	42,775	41,557	40,511	39,929	39,932	39,893	39,893	39,893	39,893	39,893	39,893	(0.7)	(2,882)
Solar	11,072	13,293	32,134	33,312	34,998	35,308	35,508	35,508	35,508	35,508	35,508	12.4	24,436
Water	102,725	102,672	102,946	104,158	105,158	106,776	108,395	111,029	111,028	111,029	111,429	0.8	8,704
Wind	66,281	73,520	94,876	106,209	112,014	116,598	118,914	118,914	120,374	121,124	121,124	6.2	54,843
Other Nonrenewable	6,109	6,221	6,460	7,084	7,964	7,964	8,579	8,679	8,679	8,679	8,679	3.6	2,570
Total	1,120,878	1,115,080	1,161,092	1,198,361	1,235,502	1,255,125	1,264,776	1,270,027	1,270,384	1,271,374	1,271,962	1.3	151,084

Note: Future capacity is based on actual, planned or under construction projects, and, not based on any projections of unreported new developments or retirements.
Source: SNL Financial.

Expected Power Plant Additions in the Next Few Years

Growth of electricity demand has remained relatively low at 0.7% per year since 2000, as efficiency gains from new appliance standards and investments in energy-efficient equipment offset the rising demand for electric services. Total electricity demand will grow 0.8% per year to 4.8 billion kWh in 2040, slower than the projection in 2014, according to the EIA's "Annual Energy Outlook 2015" released in April 2015. The relatively slow growth in electricity demand will favor the increased use of renewables in a market that sees rising long-term natural gas prices, high capital cost of new coal and nuclear capacity, and reduced cost for renewable generation, according to the EIA's 2015 projections through 2040. However, S&P Global Market Intelligence thinks that natural gas-fueled generation capacity will continue to rise as new EPA regulations encourage companies to switch out of coal.

The EIA projects that renewable generation will grow by an average of 1.9% per year through 2040, with its non-hydropower share increasing to 65.0% in 2040. Solar power will lead the growth in renewable capacity, increasing to more than 48 GW in 2040, according to the EIA. Wind capacity will increase to 87 GW, and the combined geothermal and biomass capacities will account for less than 15% of renewable capacity additions. When it comes to renewable generation, solar energy is expected to be the fastest-growing source, increasing 7.5% per year through 2014, followed by geothermal power generation at 5.4%, wind generation at 2.0%, and biomass generation at 4.4%. Generation from nuclear power plants will likely increase by an average of 0.2% per year through 2040, as 10 GW of new capacity is brought online and 5 GW of older capacity is retired.

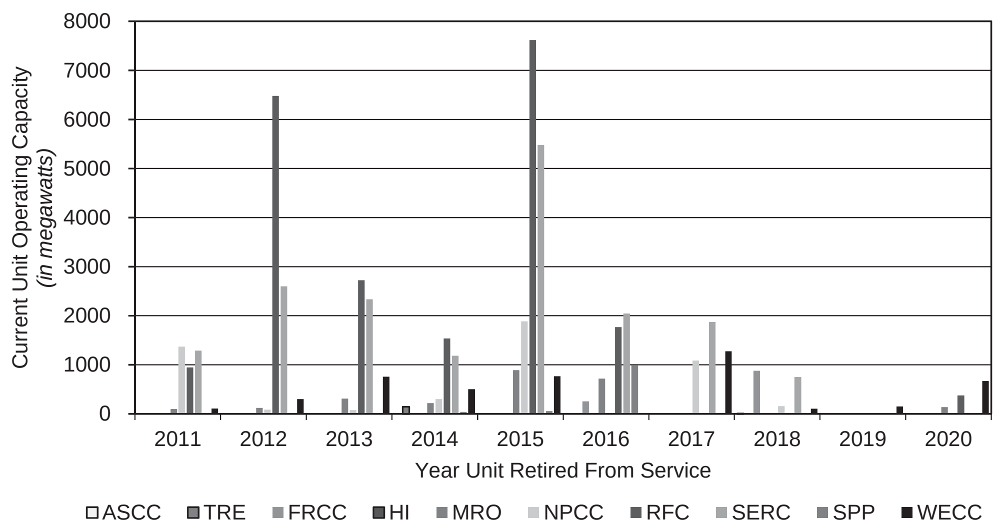
Market Forces and New Pollution Regulations Lead to Coal Retirements

Recent trends in the electric utilities industry—such as lower natural gas prices, slower growth of electric demand, and environmental regulations—have resulted in declining revenues and increased operating costs for coal plants. The decline in natural gas prices since 2008 has driven down electricity prices and payments received by generators for the electricity they produce. Lower natural gas prices also strengthen the competitiveness of natural gas combined-cycle (NGCC) power plants, lowering the cost of generating electricity from an NGCC plant to below the cost of its nearby coal-fired plant. As a result, that coal plant is operated less often, thus earning less revenue and making it a candidate for retirement.

In 2015, the annual average coal price to electric power plants dropped to $2.23/MMBtu from $2.39/MMBtu in 2011, according to EIA data. As of January 2016, the EIA expects coal price to average $2.19 and $2.20 per MMBtu in 2016 and 2017, respectively.

So that coal-fired power plants can continue to operate in 2016 onwards, they are required to have either a scrubber or a dry sorbent injection (DSI) system combined with a fabric filter. At the end of 2012 (latest available), 64% of US coal-fired generators complied with this requirement, according to the EIA, and the remaining plant owners are in the process of deciding whether to retrofit or retire their plants. The EIA's Annual Energy Outlook 2015 projects that 31 GW of coal-fired generating capacity will be retired and 4 GW of coal-fired generating capacity will be converted to natural gas between 2014 and 2016, and that a total of 40 GW of coal capacity will be retired from 2013 to 2040.

COAL RETIREMENT SUMMARY



Source: SNL Financial.

Some Nuclear Facilities Retired

In recent years, the industry has seen a number of nuclear plant retirements. In 2013, there were three major retirements. Southern California Edison (SCE), a subsidiary of Edison International, announced its decision to permanently retire both Units 2 and 3 of its 78.2%-owned San Onofre Nuclear Generating Station (SONGS), which had a combined generating capacity of 2,150 MW. In the same year, Dominion Resources Inc., one of the largest electric and gas holding companies in the US, retired its Kewaunee Power Station in Wisconsin, which had a generating capacity of 556 MW. The company's decision to retire the plant, which was licensed to operate through 2033, was an economic one. Finally, Duke Energy Corp., the largest electric power company in the US, announced that it would retire its Crystal River 3 Nuclear Generating Plant in Florida, which it had acquired when it merged with Progress Energy Inc. in July 2012. Due to uncertainties related to the costs and timing of the needed repairs, the company decided to retire the plant.

In 2014, Entergy Corp. closed and decommissioned its Vermont Yankee Nuclear Power Station in Vernon, marking the end of 42 years of operation. The station said that sustained low power prices, high-cost structure, and wholesale electricity market design flaws influenced the decision. Exelon Corp. is expected to retire its Oyster Creek Generating Station in New Jersey by the end of 2019; the plant will have achieved 50 years of operation by the date of its final retirement.

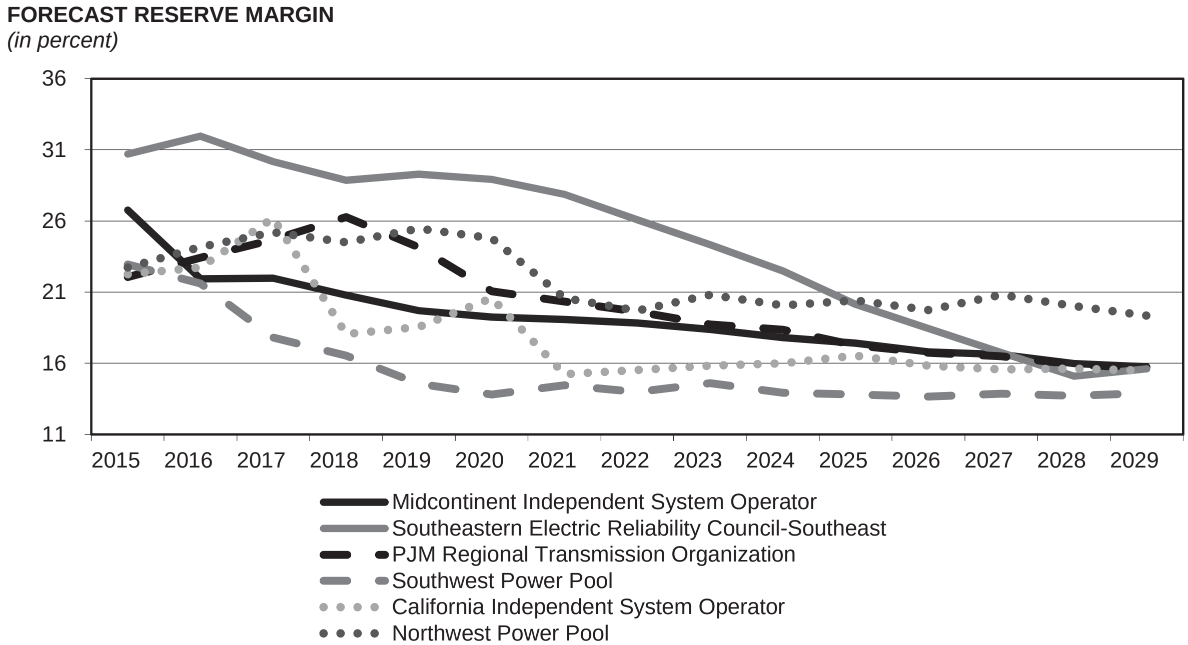
In 2015, Entergy announced plans to retire plants. Entergy Corp. is expected to close its Pilgrim nuclear power station in Massachusetts no later than June 1, 2019, citing poor market conditions, reduced revenues, and increased operational costs as the reason for the decision. The company is also expected to close its single-unit James A FitzPatrick nuclear power station in the state of New York by late 2016 or early 2017 due to reduced plant revenues, poor market design, and high operational costs.

Power Supply/Demand and Reserve Margin Forecasts

Reserve margins in all assessment areas were reported to be sufficient in 2015, but the margins continue to trend downward, according to the "2015 Long-Term Reliability Assessment," published by the North American Electric Reliability Corp. (NERC). In addition, NERC's 10-year forecast compounded annual growth rate of peak summer and winter electricity demand has dropped to the lowest rates on record.

NERC notes the downward trend of reserve margins despite an ongoing decline in the growth rates of electricity demand. This weakening demand during the last decade can primarily be attributed to energy efficiency and the decline in demand response programs, along with a general decline in large, end-use customer loads. NERC also foresees tighter margins in several assessment areas as a potential concern as the entire system undergoes an unprecedented change in the resource mix at an accelerated pace.

Despite the low load growth and declining reserve margins, NERC does not see any of the assessment areas' reserve margins falling below reference margin levels from 2016 to 2021.



Source: SNL Financial.

S&P Global Market Intelligence thinks that the reserve margin forecasts are tied to the reduction in overall plant capacity from retiring coal plants and that the declining reserve margins will likely lead to higher power prices for the industry.

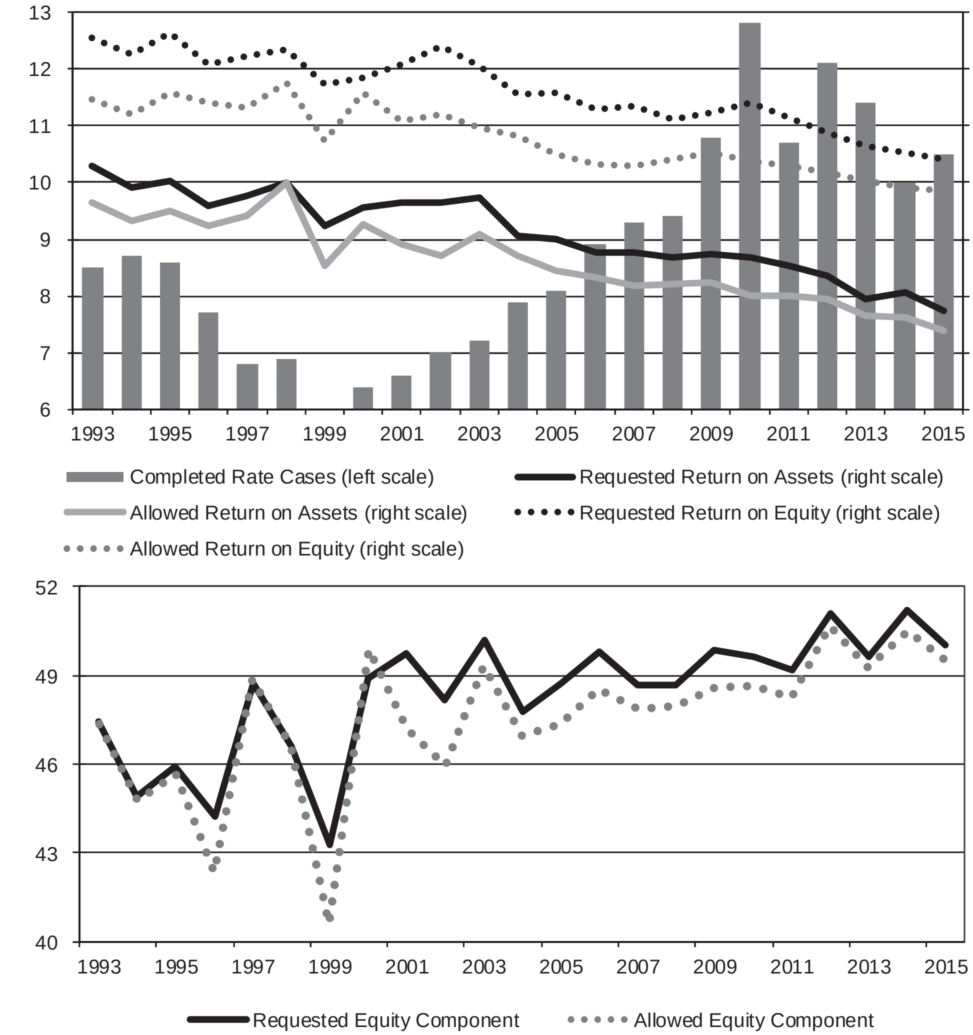
New Major Transmission Projects

Electric utilities invest in their systems to provide reliable and economic electric service—addressing system needs, including meeting reliability requirements, modernizing and replacing infrastructure, accommodating new and retiring electricity generation sources, and meeting public policy requirements. The EEI's "Transmission Projects: At A Glance" report in March 2015 showcased the major transmission projects that EEI members have planned for the next 10 years. The EEI expects that the total investment of about $20.2 billion in 2014, compared with $16.9 billion in 2013 will be the peak of year-over-year total transmission investment increases. These transmission investments include providing a reliable electricity service, relieving congestion, facilitating wholesale market competition, supporting a diverse and changing generation portfolio, mitigating damage and limiting customer outages in extreme weather, and deploying advanced monitoring systems and other new technologies designed to ensure a more flexible and resilient grid.

The EEI highlights more than 170 projects amounting to approximately $47.9 billion in transmission investments through 2025. Of these projects, some of which fall under more than one category, $22.1 billion or 46% account for the integration of renewable resources; $31.5 billion or 66% for high-voltage projects of 345 kilovolts and above; $17.4 billion or 36% for projects where companies collaborate with other utilities to develop the project; and $19.2 billion or 40% for interstate transmission projects.

Electric Utilities Rate Cases

In 2015, there were only 55 rate cases completed with an average allowed ROE of 9.9%, return on rate base (RORB) of 7.4%, and common equity component of 49.5%, according to SNL Financial and S&P Global Market Intelligence analysis.



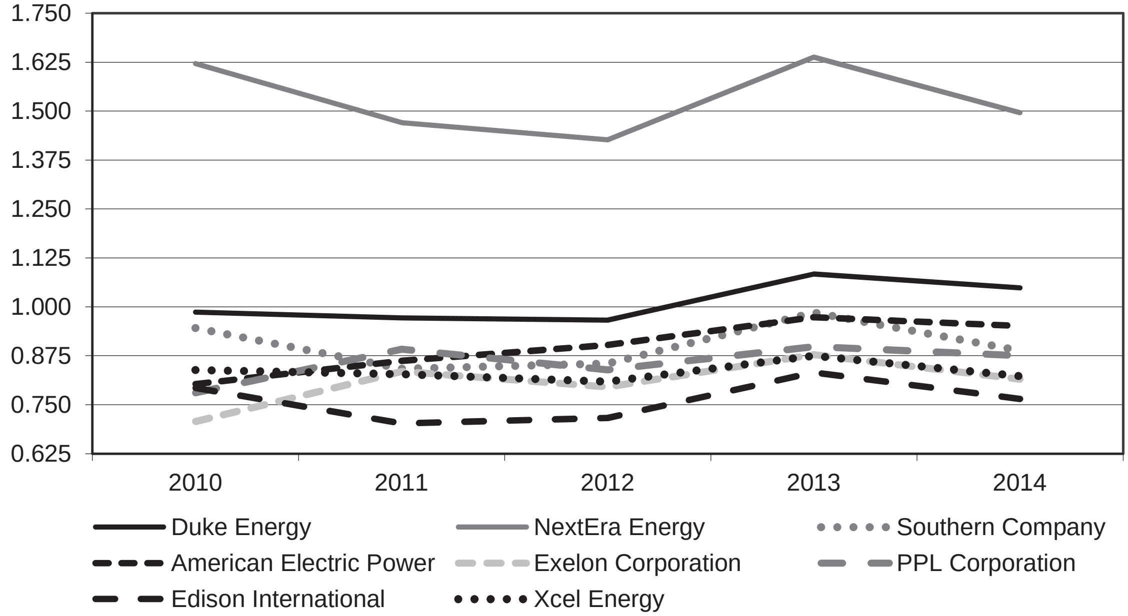
Sources: SNL Financial; S&P Global Market Intelligence.

Top Eight—Pension Funding Status

For many companies, the pension fund is a long-term liability and is not captured on the balance sheet. A pension plan has two elements: the future liabilities (benefit obligations) created by employee service, and the pension fund (plan assets) that companies use for retiree benefit payments. Companies—the pension plan sponsor—contribute to the pension fund, which is invested into bonds, equities, and other assets to meet long-term obligations. Year after year, companies are required to oversee fluctuations in investment returns and actuarial calculations to keep the pension fund accounts from being significantly over- or under-valued. An important number to watch is the funded status of the plan, calculated by subtracting the projected benefit obligation from the fair value of the plan assets.

In 2014, the top eight companies in the electric utilities industry saw a year-over-year decline in the funded status of their pension plans. From 2010 to 2014, only two firms, Duke Energy and NextEra, had a multiple of more than or equal to 1.0x, while the other six were underfunded or had multiples of less than 1.0x, based on SNL Financial data.

ELECTRIC INDUSTRY PENSION FUNDED STATUS
(pension plan assets fair value-to-pension benefit obligation, in multiples)

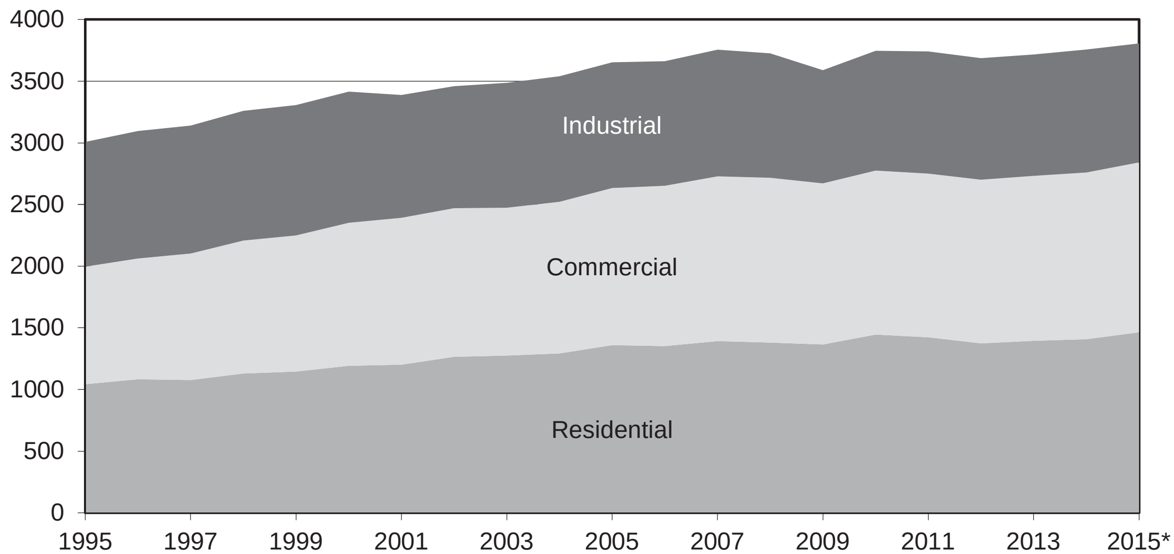


Source: SNL Financial.

Outlook Varies by Customer Segment

Total electricity volumes in 2014 declined slightly to 3,764,700 GWh, whereas revenues reached $389 billion, up 3.7% from the same period in 2013, according to the EIA.

ELECTRICITY SALES BY CUSTOMER CLASSIFICATION
(in billions of kilowatt-hours, total electric utility industry)



*Annualized based on January to September data.

Source: Energy Information Administration.

◆ **Residential.** In 2014, electricity sales to residential customers were barely up from the prior year to 1,407,208 GWh, whereas revenues were up 3.7% to $175 billion, according to the EIA. Though this market has begun to recover, S&P Global Market Intelligence thinks that the slowing rate of new US household formations and the modest growth in the overall population will restrict growth for the foreseeable future. Thus, demand changes will likely remain mostly weather-related.

◆ **Industrial.** The volume of electricity sold to industrial customers reached 997,576 GWh in 2014, according to EIA reports, a slight increase from the previous year. This also led to low revenue growth of 0.2% from this customer sector. While S&P Global Market Intelligence expects these sales to recover more fully once the economy has strengthened, long-term growth in sales to industrial customers will likely be much more modest than the growth for the residential and commercial sectors. This largely reflects the ability of large industrial firms to buy power from competing energy providers.

◆ **Commercial.** The EIA also reported that in 2014, electricity sales to commercial customers totaled 1,352,158 GWh (up 0.01% from the prior year), while revenues reached $145.9 billion (up 5.5%). Over the next several years, S&P Global Market Intelligence expects to see increased demand from the commercial sector, with the pace dependent on the strength of the economy. However, a recovery in the residential sector will likely have to take place before an improvement in the commercial sector is seen.

Regulatory & Legislative Environment

The "not in my backyard" attitudes that have hindered the construction of new transmission facilities was effectively countered by legislation. In any geographic area where transmission capacity constraints or congestion affect consumers, the Department of Energy (DOE) was given the authority to designate a "national interest electric transmission corridor," after consulting with the appropriate states and regional reliability entities. The Federal Energy Regulatory Commission (FERC) had the authority to issue permits for the construction or modification of transmission facilities in such areas and under specified conditions. Permit holders could acquire the rights-of-way for the project by exercising eminent domain in the federal district court with jurisdiction over the area where the property is located.

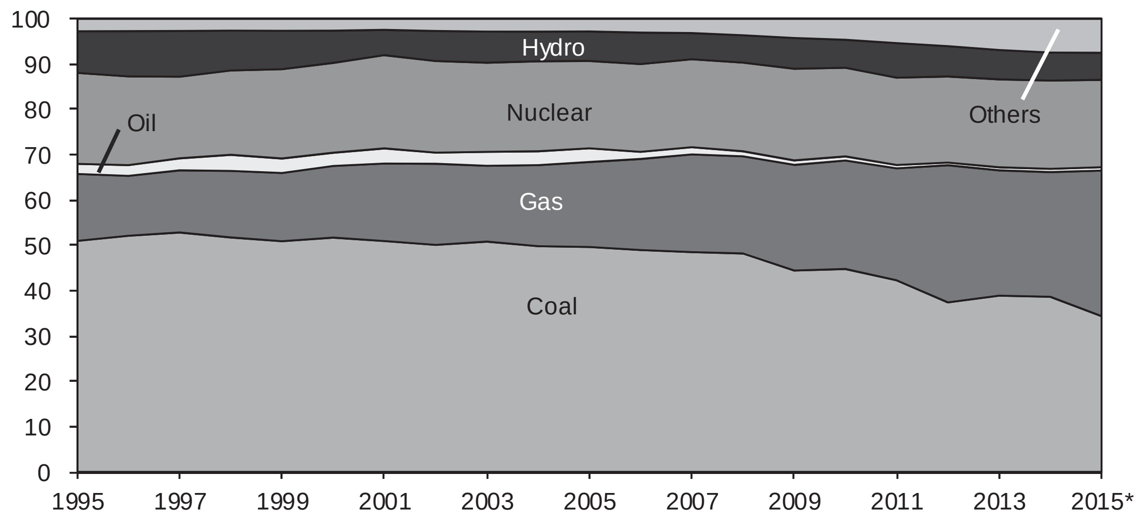
The FERC issued its Final Rule in July 2006, promoting transmission-pricing reforms that were designed to promote needed investment in the US energy infrastructure. The Energy Policy Act (EPAct) of 2005 had directed the FERC to develop incentive-based rate treatments for the interstate transmission of electric power. The Final Rule was intended to implement those incentives, provide regulatory certainty, and ensure that transmission rates remain just and reasonable.

The rate incentives identified in the Final Rule were intended for both traditional utilities and stand-alone transmission companies (known as "transcos"). The incentives include providing an ROE sufficient to attract new investment. This enables the recovery at a rate base of 100% of prudent transmission-related construction work in progress, accelerates the recovery of depreciation expense, enables the recovery of deferred costs and provides a higher rate of ROE for utilities that join transmission organizations. In addition to enhancing the reliability of the national grid, the Final Rule aims to expedite the procedures for the approval of incentives and to facilitate the financing of transmission projects. Transmission investment reached $16.9 billion in 2013, up more than 14.2% from the investment in 2012, according to EEI's report "Transmission Projects: At A Glance," published in 2015. Electric utilities and transmission companies are expected to invest around $78 billion during the four-year period from 2014 to 2017, according to the EEI.

HOW THE INDUSTRY OPERATES

Since electricity was first harnessed more than 100 years ago, technological advances have altered the landscape of the electric utilities industry. Nevertheless, the physics of electricity generation has not changed: electricity is produced when a magnet is rotated inside a coil of wire. The spinning of the magnet may be caused by steam (as in coal, oil, and nuclear power plants), by falling water (as in hydroelectric plants), or by hot expanding gases (as in gas turbines and diesel generators).

ELECTRIC GENERATION BY ENERGY SOURCE
(percentage of US total)



*Annualized based on January to September data.

Source: Energy Information Administration.

Electrical energy cannot be stored economically, so it must be generated and instantaneously delivered, based on customer demand. Consequently, an electric utilities company must own production facilities capable of meeting the maximum demand on its system, as well as transmission and distribution systems that can manage the load. Each utility must also have a reserve margin of extra production capability to allow for maintenance, equipment outages, and unexpected variations in usage.

In general, the electric utilities industry's peak earnings come with the warm weather in the second and third quarters, when customers are running air conditioners. By contrast, cold weather tends to have a marginal impact on earnings; most customers use electricity simply to start their heaters, while fuel (oil or gas) provides the heat. Thus, electric utilities' lowest earnings typically occur in the first and fourth quarters, although actual results may vary by region, and depend on weather conditions and other factors.

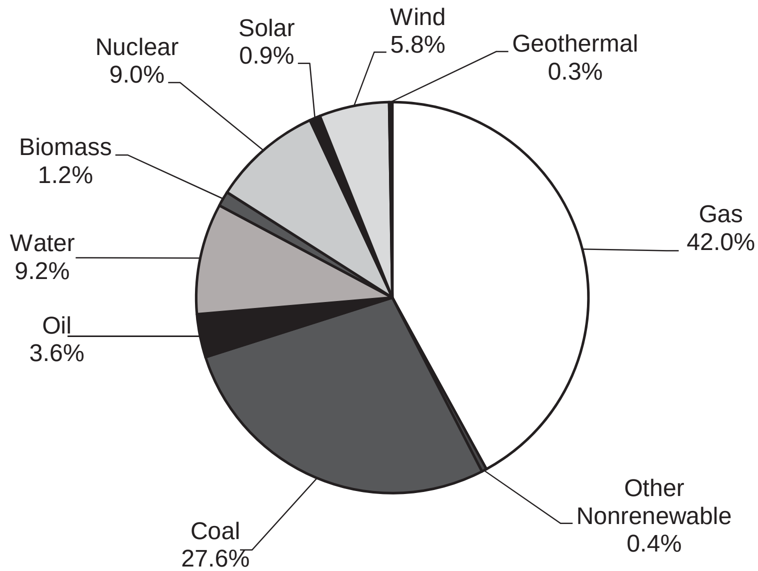
Generating Power

The electric utilities industry relies on various fuel sources to generate electricity. Some utilities also purchase power to meet peak demand.

Fuel Sources

Fuel sources used by the electric utilities industry include coal, natural gas, nuclear power, renewable sources (including hydroelectric and wind), oil, and other gases.

US OPERATING PLANT CAPACITY BY FUEL TYPE
(in terms of megawatts produced for the year 2014)



Source: SNL Financial.

◆ **Coal.** Coal remained the primary fuel for US electricity production in 2014, accounting for 38.7%, slightly down from 2013, according to the Energy Information Administration's (EIA) data on net generation by energy source. In the first 10 months of 2015, coal accounted for 34.1% of the production, down from 38.9% from the prior-year period. Although coal's share of total production increased to 38.9% in 2013, it has been in a general decline since 2007. The year-over-year decline in production from coal largely reflected, in S&P Global Market Intelligence's view, the impact of low natural gas prices and the relative flatness in power demand.

◆ **Natural gas.** This source accounted for 27.4% of US electricity production in 2014, down from 27.7% in 2013. In the first 10 months of 2015, natural gas accounted for 32.4% of the production, up from 27.7% in the same period in 2014. The sharp rise in recent years was driven, according to Edison Electric Institute (EEI), by the growth in natural gas reserves, the high level of natural gas production, and the sharp decline in natural gas prices.

◆ **Nuclear power.** Nuclear power accounted for 19.5% of the US electricity production in 2014, according to the EIA, up slightly from 19.4% in 2013. In the first 10 months of 2015, this figure had barely changed, at 19.3% from 19.2% in the prior year. This fuel's clean air emissions and relatively low cost of production have made it compelling. However, even before the crisis at Fukushima, it was felt that the development of nuclear plants in the US was unlikely to occur quickly, due to the expense associated with new plant construction and the length of time involved in the regulatory approval process. In addition to the increased costs pertaining to the heightened scrutiny of existing nuclear plants in the US, there are costs related to the decommissioning of a plant, which involves reducing radioactivity, disposing of nuclear waste, and dismantling certain machinery. Utilities are required to prefund decommissioning costs over each plant's 40-year operating life. These costs are substantial, generally in the hundreds of millions of dollars.

AVERAGE COST OF FOSSIL FUELS DELIVERED TO STEAM-ELECTRIC UTILITY PLANTS
($ per million Btu consumed)

YEAR	COAL	RESIDUAL OIL*	NATURAL GAS	ALL FOSSIL FUELS†
2015‡	2.25	11.00	3.44	2.73
2014	2.37	18.72	5.08	3.26
2013	2.34	19.35	4.35	3.09
2012	2.38	21.12	3.45	2.83
2011	2.39	18.46	4.72	3.28
2010	2.27	12.75	5.11	3.25
2009	2.21	9.55	4.82	3.05
2008	2.07	13.46	8.87	4.09
2007	1.77	8.92	7.18	3.22
2006	1.69	7.70	7.06	3.01
2005	1.54	6.84	8.21	3.23
2004	1.36	4.75	5.97	2.48
2003	1.28	4.66	5.43	2.28
2002	1.25	3.63	3.57	1.85

Btu-British thermal unit. *Includes fuel oils No. 4, No. 5, No. 6, and topped crude fuel oil. †The weighted average price for all fossil fuels includes both residual fuel oil and light oil (fuel oil No. 2, kerosene, and jet fuel), as well as small quantities of coke oven gas, refinery gas, and blast furnace gas. ‡Through September. Source: Energy Information Administration.

◆ **Renewable sources.** Renewable fuel sources, including hydroelectric power and solar, accounted for 13.2% in 2014, up slightly from 12.9% in 2013. Non-hydro renewable generation, which includes wind, solar, geothermal, and biomass sources of power, grew to 6.9% of US electricity production in 2014, up from 6.3% in 2013.

◆ **Petroleum.** Power production from petroleum, which includes petroleum liquids and petroleum coke, accounted for 0.8% in 2014, up from 0.7% in 2013; for the first 10 months of 2015, petroleum remained at 0.8%. Electric energy production using petroleum occurs chiefly in the Northeast and the Southeast.

◆ **Other gases.** Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels, again accounted for less than 1% of US electric power supply in 2014 and 2015.

Purchased Power Fills the Gap

Wholesale wheeling—the buying and selling of power by different utility-related companies—has significantly increased utilities' use of purchased power. Urban utilities in particular, with their high daytime peak loads, have found that purchased power contracts let them meet peak demand and boost their load factors without building additional capacity.

A purchased power contract generally has two components: a capacity charge and an energy charge. The capacity charge is usually considered a rate base item; in other words, it is incorporated into the end-customer's base rates, whether or not the power is used. Energy charges are regarded as fuel costs and are passed along to the end-customer on a dollar-for-dollar basis, according to usage.

Getting Power to the User

A combination of generators is used by a utility to accommodate different levels of demand. Baseload generating units can supply large amounts of power; they ordinarily operate at or near full capacity for long periods. While baseload generating units are the most expensive units to build in terms of capital investment, they are also the most efficient—and thus the most economical, in terms of operating expenses.

In contrast, peaking units are designed to operate exclusively during periods of high demand, and may run for as little as a few hours at a time. These generators—usually oil or gas combustion turbines—are the least costly in terms of capital investment, but they are usually the most expensive to run.

The cycling unit, an intermediate class of generator, runs when demand is above the capacity of the baseload generators but below the level necessary to use the peaking units. In terms of capital investment and operating costs, cycling units normally fall between baseload generators and peaking units.

Transmission and distribution facilities are the arteries through which power is delivered to customers. To transmit electricity effectively over long distances while minimizing power losses, utility companies use high-voltage transmission lines. Although such lines commonly cost considerably more to build than low-voltage wires, they can carry much more power.

Transformers reduce the voltage of electricity as it moves from transmission lines to distribution lines. At a customer's site, meters attached to the distribution lines measure the amount of electricity used during a particular period so that the utility may charge the appropriate sum to each account.

Some electricity-generating plants are members of regional "power pools," which generally are made up of several investor-owned utilities in a geographic area. The participating power plants dispatch electricity to all member utilities from a central control point.

Peak Load and Energy Rates

A utility's customer profile (the proportion of its sales that go to large industrial and wholesale customers versus smaller retail customers) can have a big influence on both its expenditures and its rates. Utilities forecast their peak loads—the average amount of energy required to serve customers at times of greatest usage—based on the average total demand from all customers at peak periods. Peak loads can differ significantly from utility to utility. The loads of some companies are relatively uniform throughout the day, whereas others are heavily concentrated during particular hours.

Capacity and Load Factors

A utility's capacity factor is the relationship between demand and capacity. It is the measure of actual output versus a generator's rated capacity.

Load factor is a related but somewhat different concept: the ratio of actual electric energy consumption during a given time period relative to the consumption that would have occurred if usage had been fully sustained at the peak capacity level. Thus, it measures the variability of load (or demand) over a given time period. A high load factor means that a utility operates near capacity most of the time.

How Rates Are Set

State commissions are responsible for determining utilities' proper rate bases and allowable operating expenses. The rulings of individual states often differ with regard to these determinations. They also differ in allowed accounting treatments for depreciation accruals and investment tax credits. Although rulings are often presumed to be based solely on the public interest, commissions actually seek to provide a balance between investor and consumer interests.

Shareholder risk is a component of a utility's allowed rate of return. To determine risk levels, state utility commissions consider the percentage of common equity versus debt in a utility's capitalization. The higher the equity component, the lower the assumed risk; a lower assumed risk generally results in a lower allowed rate of return. In contrast, shareholders that assume higher risk usually will be allowed a higher potential return.

Utilities that engage in significant cost-cutting tactics, such as work force downsizing and refinancing (both prevalent in recent years), often attempt to delay the next rate review for as long as possible. This strategy lets its investors benefit from the savings until the next rate case.

Consumer Safeguards

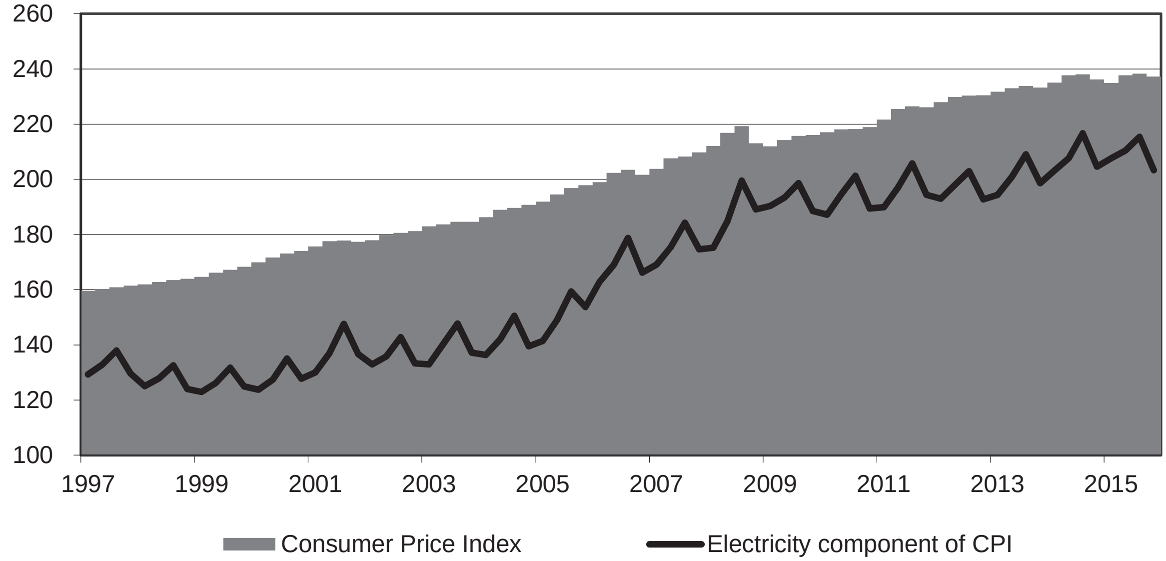
Electric utilities companies are required to charge what the regulatory bodies deem "just and reasonable rates" in order to protect consumers against potential pricing abuses while allowing utilities to attract capital and provide adequate service.

Establishing a utility's rates on an individual cost-of-service basis typically involves two steps. The first is to determine the rate level that will cover the utility's operating costs and give it an opportunity to earn a reasonable return on its investment. The utility's required revenue is often referred to as the "revenue requirement" or "cost of service." The second step designs specific rates that will eliminate discrimination against, and unfairness toward, affected classes of customers.

Government Guides Rates, Construction

Regulators once encouraged utilities to construct ample generating plants to satisfy vigorously growing electric demand. During the late 1970s, however, electric demand slowed significantly as that decade's energy crises sparked large increases in electric rates. Meanwhile, the cost of nuclear plant construction skyrocketed because of the Three Mile Island nuclear accident in Pennsylvania in 1979.

COST OF ELECTRICITY vs CONSUMER PRICES
(index, 1982–1984 = 100; quarterly data)



Source: US Bureau of Labor Statistics.

In response to those developments, regulators often disallowed or delayed cost recovery for plant investments deemed imprudent or unnecessary. In the wake of those disallowances, utilities became hesitant to undertake major capacity-related construction projects, and many chose to rely on power purchased from other generators.

When generating capacity appears unable to meet the levels of power required during periods of great demand (such as during "above-normal" heat waves), resulting in significant power shortages, utilities or independent power generators have found themselves compelled to increase their generating capacity. This was the case with the California power crisis in 2000, which resulted from the state's insufficient power supplies; it led to an accelerated approval process for new plants. A nationwide expansion of power plants ensued, resulting in an excess of power-generating capacity. Meanwhile, demand was greatly reduced due to a longer-than-expected weakness in the economy.

Rate Structures That Motivate

It has been argued that traditional utilities regulation—in which rates are based on the cost of service, plus a risk component—does not give utilities an incentive to become efficient. Hence, many states are examining the need to reform the cost-based framework.

Incentive Regulation Mechanisms

An alternative to cost-of-service ratemaking exists in the form of "incentive regulation mechanisms," which, at one point, were prevalent in the telecommunications industry. Through incentive mechanisms, utility managements are given performance targets. If the utility exceeds its target, it will share part of the resulting benefits through incremental increases in its allowed return on equity (ROE). Examples of incentive-based ratemaking include performance-based pricing, revenue sharing, and price-cap regulation.

◆ **Performance-based pricing.** Utilities that have settlement agreements on new nuclear plants or nuclear plants that have suffered prolonged outages use this ratemaking mechanism. It entails removing the plant from the rate base and extracting related operating expenses from those included in the utility's cost of service. Instead of earning a rate of return based on assets specified by regulators, a utility using performance-based pricing earns a preset price per kilowatt-hour (kWh) that the plant produces, making recovery dependent on plant performance. The most notable example is Pacific Gas & Electric Co.'s Diablo Canyon nuclear plant in California.

◆ **Revenue sharing.** This method seeks to compensate a utility for greater-than-average risk when its cost of capital is estimated. The utility is assured that benefits resulting from gains in productivity or efficiency are shared between customers (in the form of lower rates) and shareholders (as higher earnings). Some electric utilities in New York and California currently use revenue sharing.

◆ **Price-cap regulation.** Common in the telecommunications industry, this regulation sets a ceiling for consumer prices. The price cap is intended to cover a reasonable cost of service, while letting utilities choose the most efficient way to provide that service. The choice of services that a utility may offer a specific customer currently is subject to state regulatory review.

The Laws That Shape the Industry

Several pieces of federal legislation have shaped the US electric utilities industry over time. Below are brief descriptions of some of these laws and their immediate and ongoing impact.

◆ **The Federal Power Act.** Also enacted in 1935, this law created the Federal Power Commission (later renamed the Federal Energy Regulatory Commission, or FERC) to regulate the interstate transmission and sale of electric power, and to license hydroelectric plants.

◆ **The Public Utility Regulatory Policies Act (PURPA) of 1978.** By the 1970s, the regulatory framework that had been in place for some 40 years was in need of change. That decade's energy crises generated widespread support for reducing US dependence on nonrenewable sources of energy in general and on foreign oil in particular.

To promote national self-sufficiency in energy consumption, Congress enacted PURPA in 1978. As part of this legislation, the FERC was ordered to develop rules to encourage alternative energy sources and cogeneration by creating qualifying facilities (QFs), a special class of independent power producers (IPPs).

The small generators that QFs owned were exempt from Public Utility Holding Company Act of 1935 (PUHCA) restrictions. Utilities were required to purchase the firms' electricity at prices mandated by state regulators, typically set at the utility's "avoided cost," or the cost that an electric utilities company would incur to produce or otherwise procure electric power. Although PURPA did not exempt the larger IPPs from PUHCA, it nonetheless had a significant impact on the growth of non-utility generation.

◆ **The National Energy Policy Act (NEPA) of 1992.** By reforming PUHCA, this law greatly increased competition within the electric utilities industry at the level of both production and sale of wholesale power; the latter having become the industry's most lucrative business when demand is high. Under NEPA, the FERC was empowered to direct an electric utility to provide wholesale wheeling, or transmission service, at cost from any electricity-generating entity to another utility, regardless of whether the transmitting entity is another utility or an IPP.

Under NEPA's terms, transmitting utilities must receive compensation for providing wholesale wheeling services. The FERC sets rates for transmission service at a level that lets a company fully recover the "legitimate and verifiable" costs of providing the service.

NEPA created an additional class of IPP—the exempt wholesale generator, or EWG—that was free from regulation under PUHCA provisions. Unlike IPPs of the past, however, EWG projects could have investor-owned utilities as majority interests. Affiliated EWGs can produce and sell electric power at the wholesale level; state commissions regulate these transactions. NEPA also allowed EWGs to operate outside the US and to compete in foreign markets at the retail level.

Enactment of Electricity Legislation

In August 2005, President George W. Bush signed into law a comprehensive energy bill called the Energy Policy Act of 2005 (EPAct 2005). The electricity portion of the new legislation—called the Electric Reliability Act of 2005—made grid-reliability standards mandatory, repealed the PUHCA, and authorized federal permits for transmission lines. The main electricity provisions contained in the new law are outlined below.

Public Utility Holding Company Act Repealed

The legislation repealed the PUHCA of 1935. PUHCA was enacted to eliminate the abuses committed by the holding companies of that period, such as excessive charges for "services" provided to the operating utilities that were then passed on to the consuming public. PUHCA restricted the non-utility activities of holding companies and required that the service territories of the utility operating companies be contiguous.

The law required that holding companies maintain and make available (to both the FERC and the appropriate state commissions) any books and records deemed relevant to the costs incurred by a utility within a holding company. In addition, both the FERC and the state commissions would maintain their authority to ensure that jurisdictional rates were just and reasonable, to prevent cross-subsidization, and to determine whether a utility would be allowed to recover, via rates, costs related to another company within the holding company.

While new mergers still require approval by the FERC and state utility commissions, the legislation required the US Department of Energy (DOE) to review the extent to which the FERC's merger authority was duplicative of other federal and state merger authorities, and imposed statutory deadlines intended to accelerate the merger review process.

Establishment of Electric Reliability Organizations

To address reliability issues highlighted by the power blackout of August 2003, the new law made several amendments to the Federal Power Act of 1935. It created a new section in the law, Section 215, which calls for the establishment of a self-regulating, electric reliability organization (ERO) under the jurisdiction of the FERC. The law also authorized the FERC to establish ERO requirements, including regulations allowing the ERO to delegate authority to a regional entity for the purpose of proposing and enforcing standards that would ensure the reliability of the bulk power system.

Although the EROs and any regional entities given enforcement authority would not be considered departments or agencies of the US government, the FERC was authorized to take whatever actions it considered necessary to ensure compliance with reliability standards or related commission orders. The law does not preclude individual states from taking actions aimed at ensuring the reliability of the bulk power systems situated in those states, as long as those actions are consistent with the reliability standards.

The Regulator's Role

The FERC, a division of the DOE, exercises jurisdiction over wholesale utility sales and certain transactions between affiliated companies. It also oversees utilities' issuance of certain stock and debt securities, the assumption of obligations and liabilities, and mergers.

State public utility commissions regulate electricity sales to end-use customers, such as homeowners and businesses. Regulation seeks to ensure that consumers receive reliable service at a fair price. It gives each utility the opportunity—not a guarantee—to earn an adequate return so that it can attract new capital to develop and expand plants to meet customer demand. Regulation also aims to ensure public safety and to prevent unreasonable prices, excessive earnings, and discrimination against customers.

Regulated Monopolies Move Toward Competition

In the past, individual companies operated as natural monopolies. In theory, a natural monopoly should provide economies of scale, efficient service, and lower prices. However, if the owners of such a monopoly control an essential resource, they can profit excessively. The federal government regards the supply of electricity as a necessity; thus, federal and state governments have long supervised the industry through close regulation.

"Regulatory compacts" have enabled states to grant investor-owned utilities exclusive service territories in exchange for the utility's "obligation to serve" all consumers in that territory on demand. This obligation requires utilities to build, operate, and maintain generating plants, and transmission and distribution systems that would service all present and future customers. Such franchise agreements allow the highly capital-intensive utility companies to raise the necessary financing, recover their fixed costs over time from a stable customer base, and enjoy increased efficiency through economies of scale.

The pricing process is the most significant difference between regulated utilities and competitive enterprises. Whereas market forces and competition determine how much an unregulated company can charge for its products or services, a state regulatory commission establishes a utility's rates in a rate-case proceeding. Once set, rates generally do not change without another rate case.

While the wholesale power market has been opened up to competition in many states, the scandals related to Enron and other power marketing operations have helped many state regulatory commissions decide not to pursue deregulation of generation assets. S&P Global Market Intelligence also expects interstate electric transmission to remain regulated by FERC in the US, and electric distribution to remain completely regulated by the localities and states in which they provide service due to the local monopolies granted to them by the regulators.

FERC Rulings Pulled the Plug on Monopolies

In March 1995, the FERC released a watershed Notice of Proposed Rulemaking (NOPR), alerting the industry that it had targeted the wholesale power market for deregulation and was about to issue new rulings on open access transmission. (A NOPR is a notice to the industry that the FERC is revising its regulations and will release an official ruling later.)

On April 24, 1996, the FERC issued the expected rulings, which consisted of two separate orders. The first, Order 888, addressed both open access and stranded-cost issues. The second, Order 889, required electric utilities to establish electronic systems to share information about available transmission capacity.

The FERC rulings initially targeted the wholesale power market, where electric power is provided to utilities, which then distribute it to the retail market. The agency believed that, in the long term, the rulings would reduce the need to regulate bulk power sales. It expected the opening of the transmission system to increase competition and lower prices by eliminating the power generation monopoly at the electric plant level.

◆ **Order 888.** This order addressed two principal issues: transmission service and "stranded costs."

Transmission service. Order 888 required public utilities that own, control, or operate transmission lines to provide transmission service for wholesale transactions on an open, nondiscriminatory basis. The order set guidelines for efficient operation of the transmission system, and for terms and conditions of service. It required utilities to file open access transmission tariffs stating the minimum conditions under which they can provide both network and point-to-point service. Order 888 did not mandate either corporate unbundling or divestiture of assets, but it did establish standards of conduct to ensure this functional unbundling.

In issuing this order, the FERC supported the concept of independent system operators (ISOs), although it did not require utility companies to join them. Each ISO controls the operation of interconnected transmission facilities within a certain region. It also is responsible for ensuring nondiscriminatory, open access transmission, as well as the planning and security of the utilities' combined bulk transmission systems.

Stranded costs. This term refers to the money a utility could lose if it were unable to recover its investment in generating plants, and/or other deferred costs, such as those incurred when a wholesale customer switches providers or types of service. In Order 888, the FERC endorsed the principle of full recovery of prudently incurred wholesale stranded costs. The FERC thus reaffirmed its view that utilities should be able to recover these costs from departing customers by negotiating remedies before the end of the contract.

◆ **Order 889.** Also known as the Open Access Same-Time Information System (OASIS) rule, Order 889 required electric utilities to do two things. First, each utility must make available electronically, to other utilities and electricity providers, certain information about its transmission systems—the information that it would use for its own wholesale power transactions. Second, each utility's wholesale power marketing must be administered and accounted for separately from its transmission operation functions, enabling customers to compare prices for these services—a change from past practices, when the services were bundled.

◆ **Order 2000.** Although orders 888 and 889 encouraged the formation of ISOs, they still left management of the transmission grid to the vertically integrated electric utilities. The FERC eventually concluded that this structure was not efficient or reliable enough to support the development of genuinely competitive electricity markets.

To promote efficiency in wholesale electricity markets and to ensure that consumers pay the lowest possible price for reliable service, the FERC issued Order 2000 in December 1999. Its objective was to encourage all public and nonpublic electric utilities to place their transmission facilities under the independent control of a regional transmission organization (RTO). The function of an RTO is to control the transmission grid in a given regional territory, thus assuring nondiscriminatory access while increasing efficiency and reliability. Although similar in concept to the ISO, the RTO would have more authority to eliminate discrimination.

Order 2000 established the minimum characteristics and functions for an RTO: independence from market participants, a sufficient geographical scope and regional configuration, a clear operational responsibility and authority, and the ability to assure short-term reliability. The order encouraged a collaborative process whereby all utilities that own, operate, or control interstate transmission facilities could consider and develop RTOs in consultation with state officials.

◆ **Order 890.** The EPAct 2005 authorized the FERC to prescribe rules to provide for the dissemination of information about the availability and price of wholesale electric power and transmission service. The FERC strongly believed that, more than 10 years after Order 888, the open access transmission tariffs (OATTs) contained flaws that undermined its core objective of preventing undue discrimination by transmission owners. To change this, the FERC issued Order 890 on February 16, 2007—authorizing several reforms.

First, it eliminated the wide discretion that transmission providers have in calculating available transfer capacity. Second, it required an open, transparent, and coordinated transmission-planning process. Third, it increased the efficient utilization of transmission by eliminating artificial barriers (such as denying a request for long-term, point-to-point service if the request cannot be granted in an hour). Fourth, it facilitated the use of clean energy resources, such as wind power, through reforming generator imbalance charges (since these resources have limited ability to control their output). Last, Order 890 increased the clarity of OATT requirements and strengthened compliance and enforcement efforts by adopting penalties for clear violations of an OATT.

Industry Accounting Quirks

The industry's regulated nature has given rise to unique accounting practices. In particular, several significant "noncash" items can dramatically alter a utility's earnings. Historically, the most notable noncash component in accounting has been the allowance for funds used during construction (AFUDC). If state regulators do not include a utility's construction work in progress (CWIP) in the calculation of its rate base (upon which the utility is allowed to earn an actual return), the utility records an AFUDC on its income statement. This is an income credit representing construction financing costs. Once the facility is placed into operation, a return will be earned on the portion of those costs included in the rate base. The costs not included in the rate base will be recovered over the life of the facility through depreciation charges.

AFUDC amounts are added to a plant's costs. Like other construction expenditures, they are depreciated over time. During periods of heavy construction, AFUDC could represent a substantial portion of utility earnings, but are of much less significance during periods of limited construction spending.

Another source of noncash earnings is multiyear phase-ins of rate hikes given to utilities to cover costs for new generating plants. This practice generates noncash earnings in that the reported "earnings" do not include the related expense that has been recorded as an asset on the balance sheet under deferred charges. By phasing in these large rate increases, regulators lessen the "rate shock" to customers. To avoid the negative earnings impact from enormously expensive projects, utilities can defer the recording of these costs while new rates are phased in. Such deferred amounts then are amortized and recovered over time.

Many state commissions require or allow utilities to create "regulatory assets" by deferring the recording of some costs—such as those related to damages from severe storms, clean air expenditures, and demand-side management energy-efficiency programs—until the next general rate increase. For some utilities, the next expected general rate increase might be years away, so reported earnings would be affected only in the long term. However, the deferred costs hurt the quality of near-term earnings, because the earnings do not fully reflect the costs of that period. Suppose, for example, that a company incurs a $100 million expense for repairing storm damage. The company's current reported earnings would not be affected because the expense has been deferred, but this compromises the quality of those earnings. Regulatory assets are only appropriate if it is probable that they will be amortized and recovered once the next rate increase becomes effective.

KEY INDUSTRY RATIOS AND STATISTICS

◆ **Allowed ROE, allowed ROA, and equity ratio.** These statistics are relatively common inputs for setting regulated utility electricity rates. The higher the allowed return on assets (ROA), and the lower the allowed equity-to–total-capitalization ratio, then the higher the allowed return on equity (ROE) will be.

◆ **Cooling and heating degree days.** Cooling and heating degree days are measures of the average temperature for a given period. Mean temperatures below a reference temperature, usually 65 degrees Fahrenheit, result in heating degree days; those above the reference temperature result in cooling degree days. Reported by both the Edison Electric Institute (EEI) and the Climate Prediction Center of the National Weather Service, these statistics have an important bearing on utility earnings, in that electricity delivered typically increases when it is hotter than normal in the summer or, to a much lesser extent, when it is colder than normal in the winter.

◆ **Electricity rates.** These rates, generally set by regulatory authorities, are the price charged by electric utilities for the electricity that they deliver. Rates at vertically integrated utilities incorporate both the production and distribution of electricity.

◆ **Generating capacity total and capacity by fuel source.** Most electric utilities are still vertically integrated. Those that are integrated have power plants that generate electricity to be sold to their own customers or into wholesale electric markets. Hydro, nuclear, and coal plants, as well as some combined-cycle natural gas plants tend to run 24/7, while smaller peaking plants tend to run only when electric demand is highest and intermittent power sources, such as solar and wind, tend to run whenever they are available.

◆ **Interest rates.** The regulated and capital-intensive nature of the electric utilities industry makes the financial performance of these companies very sensitive to the level of interest rates and available returns. Utility rates are based on operating costs, capital investments, and the cost of capital. Changes in overall market rates affect utility rates via the cost of debt and the allowed ROE. When market rates drop substantially, utilities rates are likely to be lowered as financing cost savings are passed on to customers.

In addition, income-oriented investors are sensitive to interest rates when evaluating a utility company’s shares. If interest rates are rising, these investors may be able to receive comparable returns elsewhere and, consequently, would be less likely to purchase a utility stock that did not provide a comparable yield.

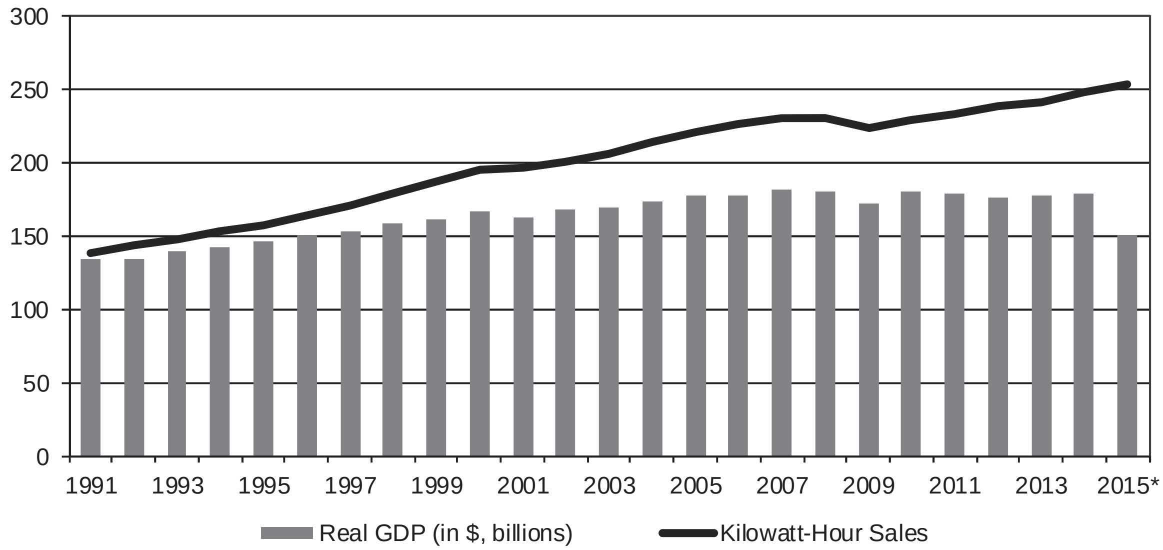
◆ **Key demographic and housing statistics.** Demographic trends can influence an electric utilities company’s customer base. New household formations and the rate of new housing construction are the key sources of residential customer growth. The US Census Bureau reports household formations, while the US Department of Commerce reports housing starts monthly.

◆ **Total electricity delivered and electricity delivered by customer class.** Electric deliveries are ultimately the main volume driver of utility revenues. Rates charged (prices) for electricity delivered also help to determine electric utilities revenues. Each customer class typically has a certain rate for electricity, with residential users typically paying the most and large industrial users paying the least.

◆ **US gross domestic product.** Reported quarterly by the US Department of Commerce, gross domestic product (GDP) is a broad measure of aggregate economic activity. It is the market value of goods and services produced by labor and capital in the US. Growth in the economy is measured by changes in inflation-adjusted (or real) GDP.

Changes in demand for electricity closely mirror the rate of economic growth. However, weather patterns can cause swings in electric consumption. In addition, demand growth for an individual utility company depends heavily on economic trends within its geographic region.

REAL GDP AND TOTAL KILOWATT-HOUR SALES
(1980=100)



*Data through October.

Sources: US Department of Commerce; US Department of Energy.

HOW TO ANALYZE A COMPANY IN THIS INDUSTRY

The job of analyzing an electric utilities company is becoming increasingly complex as the industry moves toward a deregulated, competitive marketplace. A fair assessment now requires much more than a look at the dividend yield (the annual dividend divided by the stock price). When evaluating a company in this industry, it is as important to assess the utility's underlying business position as it is to determine its current financial health.

Qualitative Factors

Important factors that affect an electric utilities company's business position include the following:

Location

The ideal environment for a utility is one in which a robust economy attracts new businesses that, in turn, contribute to above-average population growth. Is economic activity in the utility's service region healthy and growing? What is the area's outlook for population growth and new housing starts? What are the forecasts for future regional demand?

Customer Mix

A utility's customer base has an important bearing on its profitability level. A utility with a large industrial and commercial load should be viewed with caution, because these customer classes expose the utility to competition. A large residential customer base, in contrast, provides a more stable and predictable earnings stream. (The introduction of residential competition is not likely to affect this situation any time soon; most residential customers are expected to remain with their current utility.)

If any single wholesale or retail customer accounts for a significant portion of a utility's sales, the analysis must focus on the stability of that customer and on the utility's competitive position—its prospects for retaining that company's business.

Competitive Position

A company's rates and its ability to lower production costs generally determine its position relative to competitors. A high-volume customer could choose to relocate to a different service area with lower rates or to buy power from an independent producer. A large industrial customer could turn to self-generation or nontraditional energy sources.

How do the utility's production costs and rates compare with those of other utilities in the same region and with the national average? Examine the utility's plans for capital additions. How much is it expecting to spend? How will its plans be funded? As competition increases, utilities must become even more careful about capital additions, questioning whether the future customer base will support the additional costs.

Fuel Mix and Supply

A utility company's ability to alter its generating sources (such as coal, nuclear power, hydroelectric power, gas, and oil) defends it against supply disruptions or price spikes in a particular commodity. It also lets the company take advantage of changes in fuel costs. Conversely, a lack of flexibility in fuel supply restricts a company's options if the environment changes.

Plant Operations

Areas for analysts to consider include the various costs to run the plants, the reliability of the operations, and the quality of the service. Have there been any unscheduled outages? What are the current estimates of remaining plant life and decommissioning costs? Will it be profitable to run the plant(s) in a competitive market? Does the company have idled or excess capacity? If so, what are its plans?

In addition, look at the utility's transmission access. Is it adequate for current demand? Is the company locked into any long-term purchase power contracts with high-price non-utility generators? If competition drives down the industry's production costs and market prices, the utility would suffer from contractual obligations to purchase power at above-market rates.

Business Strategy

The electric utilities industry offers little in the way of domestic growth prospects, given its maturity. For that reason, many utilities had attempted to achieve growth through investments in wholesale energy marketing and trading operations, and/or other energy-related businesses, as well as in utilities in foreign countries. Such ventures, however, added a significant risk component to their operations, and often resulted in serious economic losses and even bankrupt businesses. One must determine whether the utility's business strategy and management are conservative or aggressive, and whether they are appropriate in light of the company's strengths and culture, and the opportunities available to it.

The Regulatory Environment

Electric utilities' activities remain subject to extensive state and federal regulation, despite the eventual arrival of retail competition. Regulated areas include consumer rates, allowed rates of return, the safety and adequacy of service, the purchase and sale of assets, accounting systems, and the issuance of securities.

Therefore, it is important to study the trends at the regulatory commissions that have jurisdiction over a utility. Compare the recent average return on equity (ROE) that the commission authorized for the utility with the amount the utility requested. Was the ruling favorable? If not, why? Is there a possibility of a rate decrease? When will the next rate increase (or decrease) be filed? What other major issues will be addressed?

What are the local commission's views on retail competition and regulatory reform? On stranded-cost recovery, demand-side management programs, and clean air compliance? All of these factors can affect a utility's ultimate revenues.

Evaluating the Income Statement

At this point, one should have a good idea of how well the utility being analyzed is positioned to compete in the current changing environment and its own particular markets. Now it is time to look at the financial statements, beginning with the income statement.

Revenue Growth

Revenue growth for utilities is somewhat predictable because of regulatory constraints on price increases. Nevertheless, it is still important to study past sales trends and expectations for the future. Did growth come from a rate hike or from increased weather-related demand? Is the economy improving and is the population growing in the utility's service area?

Operating Expenses

Fuel is the largest and most variable item on a utility's list of operating expenses, and it is often the least controllable. Note whether the company has been able to pass along higher fuel costs to customers. Pay close attention to nonfuel expenses, and particularly to how they compare with revenues. An improving trend in operating and maintenance costs usually indicates that a company is focusing on streamlining its operations and controlling costs.

Noncash Items

Unique to the analysis of utility companies are certain noncash items that can make a big difference in the quality of reported earnings. These items include the treatment of deferred income taxes, deferred expenses, phase-ins, depreciation and amortization, and the allowance for funds used during construction (AFUDC). If any of these items constitutes a significant portion of reported earnings, the results may be overstated or unsustainable.

Study the trends in depreciation and amortization charges. Given the current competitive environment and the possibility of stranded investments, many utilities are accelerating the write-down of at-risk assets. A higher depreciation rate depresses a utility's current net earnings, but analysts view the tactic as a positive step, because accelerated depreciation helps a utility recover the costs of its investments more quickly.

Non-Operating Expenses

Because the utilities industry is extremely capital-intensive, interest payments are its most significant non-operating expense. Since the mid-1980s, however, interest costs have trended downward, largely because industry overcapacity has resulted in reduced capital expenditures and construction. If interest expenses are increasing, find out why.

STATEMENT OF INCOME—INVESTOR-OWNED UTILITIES
(in millions of dollars, except as noted)

ITEM	---- 3RD QTR ----		% CHG.
	2014	2015	
Total electric operating revenues*	98,019	95,935	(2.1)
Electric operating expenses			
Energy expenses	34,453	31,853	(7.5)
Operations & maintenance	22,679	22,865	0.8
Depreciation & amortization	10,510	10,715	2.0
Taxes (other than income)	4,322	4,451	3.0
Other operation & maintenance	3,927	3,237	(17.6)
Total operating expenses	75,890	73,122	(3.6)
Total utility operating income	22,129	22,814	3.1
Total other recurring revenue	1,543	80	(94.8)
Nonrecurring revenue	468	74	(84.1)
Net interest expense	5,532	5,635	1.9
Other expenses	(20)	103	NM
Nonrecurring expenses	859	4,297	400.3
Net income before taxes	17,769	12,932	(27.2)
Net income before extraordinary items	12,451	8,907	(28.5)
Total extraordinary items	344	(191)	NM
Net income	12,793	8,716	(31.9)

*Revenues are adjusted for intra-industry sales for the resale of electricity. NM-Not meaningful.
Source: Edison Electric Institute.

Balance Sheet and Cash Flow Measures

The capitalization ratio, debt ratings, cash flow, and ROE are all measures of a company's financial strength and performance.

BALANCE SHEET DATA—INVESTOR-OWNED UTILITIES
(in millions of dollars)

ITEM	---- 3RD QTR ---- 2014	2015	% CHG.
ASSETS			
Utility plant			
Gross property & equipment	1,215,693	1,271,824	4.6
Accumulated depreciation	378,359	385,958	2.0
Net property in service	837,334	885,866	5.8
Construction work in progress	50,212	53,119	5.8
Net nuclear fuel	8,443	8,892	5.3
Other property	8,197	7,544	(8.0)
Net property & equipment	904,186	955,421	5.7
Current assets	128,674	127,806	(0.7)
Investments	87,166	86,412	(0.9)
Other assets	202,799	218,348	7.7
Total assets	1,322,826	1,387,987	4.9
CAPITALIZATION & LIABILITIES			
Common equity	352,319	356,429	1.2
Nonredeemable preferred equity	55	55	0.0
Noncontrolling interests	6,698	8,041	20.1
Total shareholders' equity	359,071	364,525	1.5
Short-term debt	25,468	25,337	(0.5)
Current portion of long-term debt	23,301	34,260	47.0
Short-term and current long-term debt	48,769	59,597	22.2
Accounts payable and accrued expenses	54,513	55,865	2.5
Other current liabilities	34,622	35,450	2.4
Current liabilities	137,904	150,912	9.4
Deferred taxes	138,015	142,173	3.0
Noncurrent portion of long-term debt	447,135	464,964	4.0
Other liabilities	239,620	268,188	11.9
Total liabilities	962,674	1,026,236	6.6
Total mezzanine level	1,081	865	(20.0)
Total liabilities and equities	1,322,826	1,391,626	5.2

Source: Edison Electric Institute.

Capitalization Ratios

When analyzing a utility's balance sheet, pay close attention to the capitalization ratio, which measures long-term debt as a percentage of capital. Historically, utilities have been highly leveraged. The main factors influencing the level of debt are the level of capital expenditures, particularly construction expenditures, and the cost of debt compared with the value of the company's common stock. (A company will not issue new shares if its stock price is relatively low.) Companies with strong balance sheets will have more flexibility to further reduce their debt, invest in their non-regulated businesses, and/or increase their dividends.

Debt Ratings

A debt rating measures a company's financial position and its ability to repay debt. The Standard & Poor's ratings for a utility's debt securities are a good indication of a company's financial security. Analysts should look for any trends in these ratings over time. Have they changed for the better or the worse?

Although a high debt rating is usually desirable, it is not always the best news for shareholders. For example, a company that focuses on using earnings (cash) to pay off debt may do so at the expense of common stock dividend payments. As a rule, however, low debt ratings are not desirable. Companies with low ratings often find it hard to raise capital; they also incur high interest payments to finance capital improvements. If the stock price is low enough, however, the utility's shares may be attractive to investors.

Cash Flow

A review of cash flow trends helps to reveal the health of an electric utility. For an equity analyst, it is more important to look at free cash flow—what is left after interest and dividend payments have been made. A company struggling with cash flow problems may have to consider cutting dividends or freezing dividends at current levels to preserve funds.

CASH FLOW STATEMENT—INVESTOR-OWNED UTILITIES
(in millions of dollars)

ITEM	------ 3RD QTR ------		% CHG.
	2014	2015	
CASH FLOWS FROM OPERATING ACTIVITIES			
Net income	12,763	8,721	(31.7)
Depreciation and amortization	11,699	11,444	(2.2)
Deferred taxes and investment credits	4,479	2,554	(43.0)
Operating changes in AFUDC	(318)	(326)	NM
Change in working capital	1,443	3,156	118.7
Other operating changes in cash	47	4,976	10,424.9
Net cash provided by operating activities	30,113	30,524	1.4
CASH FLOWS FROM INVESTING ACTIVITIES			
Capital expenditures	(23,673)	(24,356)	NM
Net non-operating asset sales and purchases	47	(2,972)	NM
Change in nuclear decommissioning trust	(228)	143	NM
Investing changes in AFUDC	36	29	(17.3)
Other investing changes in cash	355	(448)	NM
Net cash used in (provided by) investing activities	(23,463)	(27,604)	NM
CASH FLOWS FROM FINANCING ACTIVITIES			
Net change in short-term debt	(4,063)	(2,465)	NM
Net change in long-term debt	3,977	4,348	9.3
Proceeds from issuance of preferred equity	18	337	1,772.2
Preferred share repurchases	-	(419)	NM
Net change in preferred issues	18	(82)	NM
Cash flow: proceeds from issuance of common equity	1,010	3,197	216.4
Cash flow: common share repurchases	(107)	(117)	NM
Net change in common issues	904	3,080	240.9
Dividends paid to shareholders	(5,269)	(5,454)	NM
Other financing changes in cash	(243)	50	NM
Cash flows from financing activities	(4,676)	(524)	NM
Other changes in cash	(9)	(8)	NM
Net increase (decrease) in cash and cash equivalents	1,965	2,389	21.6
Cash and cash equivalents at beginning of period	17,268	19,292	11.7
Cash and cash equivalents at end of period	19,233	21,681	12.7

NM-Not meaningful. AFUDC-Allowance for funds used during construction.
Source: Edison Electric Institute.

Return on Equity

If a utility's ROE is too low, the analyst must determine if it was caused by mild weather or the absence of a needed rate hike—or if the utility is poorly operated. Conversely, too high an ROE could cause regulators to seek a rate cut. For firms in the S&P Composite 1500 Electric Utilities Index, the average ROE generally ranges between 10% and 13%, although the average is slightly below that range for 2015.

Valuation Measures

Stock price figures as a variable in the measures described below, so they indicate the market's valuation of a company's current and potential future performance.

Market-To-Book Ratio

The market-to-book (or price-to-book) ratio is used to measure shareholder confidence in a company's prospects. It is calculated by dividing the company's current market price per share by the company's book value per share. A low market-to-book ratio could mean that a company has assets, such as nuclear generation facilities, that are no longer economically viable. For firms in the S&P electric utilities index, shares normally trade between one and two times the company's book value per share.

P/E Ratio and Dividend Yield

To evaluate the current market price of the utility's shares, look at the price-to-earnings (P/E) ratio and the dividend yield. Is the P/E ratio greater or less than the expected sustainable growth rate of the company's earnings? How does the P/E compare with the industry average? Investors tend to pay a higher P/E and to accept a lower dividend yield from the shares of a company with earnings that are expected to rise rapidly.

For firms in the S&P electric utilities index, shares normally trade between 12 and 18 times the company's projected earnings per share (EPS). These shares tend to trade at a discount to the market multiple because of the slow-growth nature of utilities' regulated operations. Dividend yields normally range from 3% to 6%. Because of these higher-than-average dividend yields, dividend income is an important component of investors' total return on electric utilities stocks. The importance of the dividend was significantly increased in May 2003, when President Bush signed legislation that cut the tax rate on dividend income from the earned income rate to a 15% rate.

Despite the importance of the dividend (especially for income-oriented investors), electric utilities stocks are much less interest-rate sensitive than they were in the past. In fact, the value of electric utilities stocks declined in both 2001 and 2002, despite a significant decline in interest rates. This primarily reflects the perception of investors that other sectors may benefit more from a drop in rates.

In 2007, although there was a coincidence between the decline in interest rates and the rise in utility stocks, S&P Global Market Intelligence thinks the latter was more affected by the weakness of the overall market. Utility stocks appear to benefit the most—as they did in 2004, 2005, and 2007—when the broader market is in a state of decline or uncertainty and investors are looking for a "safe haven" for their investments.

GLOSSARY

Allowance for funds used during construction (AFUDC)—On the income statement, this noncash item represents the estimated composite interest costs of debt and the allowed return on equity (ROE) used to finance a utility's construction. AFUDC is capitalized in the property accounts.

Avoided Cost—The cost that an electric utility would normally incur to produce or procure electric power, but which it does not incur because it has purchased that power from a qualifying facility.

Baseload—The minimum constant level of electric power delivered or required in a given time period.

Baseload unit—An electricity-generating plant, or a generating unit within a plant, that normally is operated continuously to meet the system's minimum constant level of electric demand.

Construction work in progress (CWIP)—A balance sheet account that shows all costs associated with the construction of new utility facilities until these facilities are placed in service. These costs may or may not be included in the rate base.

Cost of capital—The sum of the weighted cost of capital for each funding source: long-term debt, preferred stock equity, and common stock equity.

Cost of service—In public utility regulation, the total costs incurred to supply utility service; it is the chief determinant of the rate of return allowed a utility.

Cycling unit—An electricity-generating plant, or generating unit within a plant, that can vary its level of operation in response to changes in electric demand. Cycling units are intermediate load units that are usually used to meet demand that exceeds the baseload (the minimum constant level of demand).

Decommissioning costs—Expenses incurred in the removal and disposal of components of a nuclear power plant that has permanently stopped producing electricity.

Degree day—A unit of measure expressing the extent to which temperatures vary from a specific reference temperature (usually 65 degrees Fahrenheit) during a given time period; each degree above or below the benchmark equals one degree day. Thus, a given period (month, quarter, or year) during which the mean temperature is 55 degrees would be considered as 10 heating degree days. This usually would be compared with the prior period and the historical average.

Demand-side management—The planning, implementation, and monitoring of utility activities designed to encourage consumers to modify patterns of electricity usage.

Deregulation—The process of decreasing or eliminating government regulatory control over industries in the expectation that competitive forces will drive the market.

Disallowance—A regulatory body's determination that certain costs a utility incurred are not recoverable from the utility's customers through rates. Such costs could include those that regulators find to be unwise, excessive, unaccounted for, or caused by lack of proper foresight.

Electric distribution system—The portion of an electric system dedicated to delivering electric energy to end-users. It links the transmission system and most customers.

Electric transmission—The transportation of bulk quantities of electric energy, via electric conductors, from generation sources to an electric distribution system, a load center, or an interface with a neighboring control area.

Firm power—Power or power-producing capacity intended to be available at all times during the period covered by a guaranteed commitment to deliver, even under adverse conditions.

General rate case—The major regulatory proceeding during which regulators examine in depth a utility's costs and operations, as part of the overall process of determining utility rates.

Generator—A machine that converts mechanical energy into electrical energy; also, a company that uses such machines to generate electrical energy.

Gigawatt—A unit of power or capacity equal to one billion watts.

Independent power producers (IPPs)—Non-utility power-producing entities that are not qualifying facilities (QFs); they typically sell the power they generate to electric utilities at prevailing wholesale prices. The utilities then resell this power to their customers.

Independent system operators (ISOs)—An entity formed to control and operate a regional transmission system; the individual parts of the system have different owners. Commissions in each state determine the rules for ISOs.

Interruptible load—Program activities that can interrupt consumer load at seasonal peak times, in accordance with contractual arrangements.

Kilowatt—A unit of power or capacity equal to one thousand watts.

Load—The amount of power carried by a utility system or subsystem, or the amount of power consumed by an electric device at a specified time; also referred to as demand.

Load factor—The ratio of the actual electric energy consumed during a given time period to the consumption that would have occurred at the peak demand level.

Megawatt—A unit of power or capacity equal to one million watts.

Natural monopoly—Businesses that are monopolies because of underlying industry attributes. Natural monopolies typically occur in industries in which a large capital investment is required to produce a single unit of output, making it difficult for new businesses to enter the market.

Network service—This involves sales to a third-party bulk power marketer; point-to-point service is a wholesale transaction to a specific utility.

Peak demand—The maximum amount of electricity required during periods of highest usage.

Peak load—The maximum amount of energy carried by a utility system during a specific period. Peak load determines the required system capacity.

Peaking unit—An electricity-generating plant (or a generating unit within a plant) designed to produce electric energy on short notice and for relatively brief periods. Peaking units are used when all other units and energy sources are operating at their maximum capability.

Power pool—An association of two or more interconnected electric systems that have agreed to coordinate operations, and to plan for improved reliability and efficiencies.

Price-cap regulation—A system of limiting rates based directly on a measure of prices (such as the consumer price index) without regard to a utility's costs.

Rate base—The value of property upon which a utility is allowed to earn a specified rate of return as established by a regulatory authority.

Rate of return (ROR)—The return earned by or allowed a utility enterprise, calculated as a percentage of the utility's rate base.

Rate structure—The combined rate components and designs a utility uses to bill its various classes of customers.

Reserve margin—The difference between an electric utility's system capability and anticipated peak load during a specified period, measured either in megawatts or as a percentage of peak load.

Revenue requirement—The total amount of money a utility must collect from customers to pay all operating and capital costs, and to receive a fair return on investment.

Scheduled outage—The shutdown of a generating unit, transmission line, or other facility for inspection or maintenance, in accordance with an advance schedule.

Stranded costs—The Federal Energy Regulatory Commission (FERC) defines stranded costs as any legitimate, prudent, and verifiable cost incurred at the wholesale level that is no longer economically viable in a competitive environment. In practice, the term generally refers to high-cost purchased power obligations to certain non-utility generators.

Tariff—Public schedules detailing utility rates, rules, service territories, and terms of service, filed for official approval with a regulatory agency.

Transformer—A device that changes the voltage of alternating current electricity.

Turbine—A machine for generating rotary mechanical power from the energy of a stream of a fluid, such as water. The rotational energy is then used to operate an electric generator or other device.

Used and useful—A regulatory concept for determining whether a utility plant is eligible for inclusion in a utility's rate base. This determination is generally made when a project becomes operational.

Watt—The basic unit for measuring electric power.

Wholesale sales—Energy supplied by a utility or independent power producer to other electric utilities, cooperatives, municipals, and federal and state electric agencies for resale to the ultimate customers.

Wholesale wheeling—The provision of transmission service for any electricity-generating entity that sends power to another utility.

INDUSTRY REFERENCES

PERIODICALS

Megawatt Daily
http://www.platts.com/products/megawatt-daily
Daily newsletter; covers industry news.

Public Utilities Fortnightly
http://www.fortnightly.com
Monthly; covers the electric and gas utilities industries.

TRADE ASSOCIATIONS

Edison Electric Institute (EEI)
http://www.eei.org
Supplies industry statistics and information on electric utilities industry issues.

National Association of Regulatory Utility Commissioners (NARUC)
http://www.naruc.org
Represents individual states' viewpoints on regulation.

North American Electric Reliability Corp. (NERC)
http://www.nerc.com
Not-for-profit organization formed in 1968 by the electric utilities industry to promote the reliability and adequacy of North America's bulk power supply.

INDUSTRY CONSULTANTS

Platts
http://www.platts.com
Consulting and publishing firm that collects strategic energy information. Platts is a unit of McGraw Hill Financial.

GOVERNMENT AND REGULATORY AGENCIES

Federal Energy Regulatory Commission (FERC)
http://www.ferc.gov
Independent five-member commission within the US Department of Energy (DOE); regulates interstate and wholesale electric power rates (tariffs) and transactions, hydroelectric licensing, and interstate natural gas pipeline companies.

US Department of Energy (DOE)
http://www.energy.gov
A position in the US Cabinet comprising the Office of the Secretary of Energy and the FERC.

US Energy Information Administration (EIA)
http://www.eia.gov
Agency within the US Department of Energy (DOE); supplies publications and statistics on the electricity industry.

US Environmental Protection Agency (EPA)
http://www3.epa.gov
Independent federal agency that formulates and enforces policies and regulations aimed at the protection of human health and the environment.

US Nuclear Regulatory Commission (NRC)
http://www.nrc.gov
Independent federal agency that regulates civilian uses of nuclear materials in the US. The NRC's main functions include inspecting plant operations, reviewing and issuing construction and operating licenses, and researching regulatory and standards development.

COMPARATIVE COMPANY ANALYSIS

Operating Revenues

				Million $							CAGR (%)			Index Basis (2004 = 100)				
Ticker		Company	Yr. End	2014	2013	2012	2011	2010	2009	2004	10-Yr.	5-Yr.	1-Yr.	2014	2013	2012	2011	2010
ELECTRIC UTILITIES‡																		
ALE	§	ALLETE INC	DEC	1,136.8 F	1,018.4 F	961.2 F	928.2 F	906.3 F	759.1 F	751.4 C,D	4.2	8.4	11.6	151	136	128	124	121
AEP	[]	AMERICAN ELECTRIC POWER CO	DEC	17,020.0 F	15,357.0 F	14,945.0 F	15,116.0 F	14,427.0 F	13,489.0 F	14,057.0 D,F	1.9	4.8	10.8	121	109	106	108	103
CNL	†	CLECO CORP	DEC	1,269.5 A,F	1,096.7 F	993.7 F	1,117.3 F	1,148.7 F	853.8 F	745.8 D,F	5.5	8.3	15.8	170	147	133	150	154
DUK	[]	DUKE ENERGY CORP	DEC	23,930.0 D,F	24,549.0 F	19,624.0 A,F	14,529.0 F	14,272.0 D,F	12,731.0 F	22,503.0 D,F	0.6	13.5	(2.5)	106	109	87	65	63
EIX	[]	EDISON INTERNATIONAL	DEC	13,413.0 F	12,581.0 F	11,862.0 D,F	12,760.0 F	12,409.0 F	12,361.0 D,F	10,199.0 A,C	2.8	1.6	6.6	132	123	116	125	122
EE	§	EL PASO ELECTRIC CO	DEC	917.5 F	890.4 F	852.9 F	914.1 F	877.3 F	828.0 F	708.6 F	2.6	2.1	3.1	129	126	120	129	124
ETR	[]	ENTERGY CORP	DEC	12,494.9 F	11,390.9 F	10,302.1 F	11,229.1 F	11,487.6 F	10,745.7 F	10,123.7 F	2.1	3.1	9.7	123	113	102	111	113
ES	[]	EVERSOURCE ENERGY	DEC	7,741.9 F	7,301.2 F	6,273.8 A,F	4,465.7 F	4,898.2 F	5,439.4 F	6,686.7 F	1.5	7.3	6.0	116	109	94	67	73
EXC	[]	EXELON CORP	DEC	27,429.0 F	24,888.0 F	23,489.0 A,F	18,924.0 F	18,644.0 F	17,318.0 F	14,515.0 C,F	6.6	9.6	10.2	189	171	162	130	128
FE	[]	FIRSTENERGY CORP	DEC	15,049.0 F	14,900.0 D,F	15,320.0 F	16,346.0 A,F	13,253.0 F	12,712.0 F	12,453.0 D,F	1.9	3.4	1.0	121	120	123	131	106
GXP	†	GREAT PLAINS ENERGY INC	DEC	2,568.2	2,446.3	2,309.9	2,318.0	2,255.5	1,965.0 D	2,464.0 D,F	0.4	5.5	5.0	104	99	94	94	92
HE	†	HAWAIIAN ELECTRIC INDS	DEC	3,239.5 F	3,238.5 F	3,375.0 F	3,242.3 F	2,665.0 F	2,309.6 F	1,924.1 D,F	5.3	7.0	0.0	168	168	175	169	139
IDA	†	IDACORP INC	DEC	1,282.5 F	1,246.2 F	1,080.7 F	1,026.8 F	1,036.0 F	1,049.8 F	844.5 F	4.3	4.1	2.9	152	148	128	122	123
NEE	[]	NEXTERA ENERGY INC	DEC	17,021.0 F	15,136.0 D,F	14,256.0 F	15,341.0 F	15,317.0 F	15,643.0 F	10,522.0 F	4.9	1.7	12.5	162	144	135	146	146
OGE	†	OGE ENERGY CORP	DEC	2,453.1	2,867.7 F	3,671.2 F	3,915.9 F	3,716.9 F	2,869.7 F	4,926.6 D,F	(6.7)	(3.1)	(14.5)	50	58	75	79	75
POM	[]	PEPCO HOLDINGS INC	DEC	4,881.0 F	4,666.0 D,F	5,081.0 F	5,920.0 D,F	7,039.0 D,F	9,259.0 F	7,221.8 F	(3.8)	(12.0)	4.6	68	65	70	82	97
PNW	[]	PINNACLE WEST CAPITAL CORP	DEC	3,491.6 F	3,454.6 F	3,301.8 D,F	3,241.4 D,F	3,263.6 D,F	3,297.1 D,F	2,899.7 D,F	1.9	1.2	1.1	120	119	114	112	113
PNM	†	PNM RESOURCES INC	DEC	1,435.9	1,387.9	1,342.4	1,700.6	1,673.5	1,647.7 D,F	1,604.8 F	(1.1)	(2.7)	3.5	89	86	84	106	104
PPL	[]	PPL CORP	DEC	11,564.0 D,F	11,905.0 F	12,189.0 D,F	12,737.0 A,F	8,521.0 A,C	7,556.0 D,F	5,812.0 D,F	7.1	8.9	(2.9)	199	205	210	219	147
SO	[]	SOUTHERN CO	DEC	18,467.0 F	17,087.0 F	16,537.0 F	17,657.0 F	17,456.0 F	15,743.0 F	11,902.0 F	4.5	3.2	8.1	155	144	139	148	147
WR	†	WESTAR ENERGY INC	DEC	2,601.7	2,370.7	2,261.5	2,171.0	2,056.2	1,858.2 D	1,464.5 D	5.9	7.0	9.7	178	162	154	148	140
XEL	[]	XCEL ENERGY INC	DEC	11,686.1 F	10,914.9 F	10,128.2 F	10,654.8 F	10,310.9 F	9,644.3 D,F	8,345.3 D,F	3.4	3.9	7.1	140	131	121	128	124

Note: Data as originally reported. CAGR-Compound annual growth rate. ‡S&P 1500 index group. []Company included in the S&P 500. †Company included in the S&P MidCap 400. §Company included in the S&P SmallCap 600.
**Not calculated; data for base year or end year not available. A - This year's data reflect an acquisition or merger. B - This year's data reflect a major merger resulting in the formation of a new company. C - This year's data reflect an accounting change.
D - Data exclude discontinued operations. E - Includes excise taxes. F - Includes other (nonoperating) income. G - Includes sale of leased depts. H - Some or all data are not available, due to a fiscal year change.

Net Income

Ticker		Company	Yr. End	Million $ 2014	2013	2012	2011	2010	2009	2004	CAGR (%) 10-Yr.	5-Yr.	1-Yr.	Index Basis (2004 = 100) 2014	2013	2012	2011	2010
ELECTRIC UTILITIES‡																		
ALE	§	ALLETE INC	DEC	124.8	104.7	97.1	93.8	75.3	61.0	39.1	12.3	15.4	19.2	319	268	248	240	193
AEP	[]	AMERICAN ELECTRIC POWER CO	DEC	1,634.0	1,480.0	1,259.0	1,573.0	1,214.0	1,365.0	1,133.0	3.7	3.7	10.4	144	131	111	139	107
CNL	†	CLECO CORP	DEC	154.7	160.7	163.6	195.8	255.4	106.3	66.1	8.9	7.8	(3.7)	234	243	248	296	386
DUK	[]	DUKE ENERGY CORP	DEC	2,459.0	2,648.0	1,732.0	1,705.0	1,317.0	1,063.0	1,232.0	7.2	18.3	(7.1)	200	215	141	138	107
EIX	[]	EDISON INTERNATIONAL	DEC	1,539.0	979.0	1,594.0	25.0	1,304.0	907.0	232.0	20.8	11.2	57.2	663	422	687	11	562
EE	§	EL PASO ELECTRIC CO	DEC	91.4	88.6	90.8	103.5	90.3	66.9	33.4	10.6	6.4	3.2	274	265	272	310	271
ETR	[]	ENTERGY CORP	DEC	960.3	730.6	868.4	1,367.4	1,270.3	1,251.1	933.0	0.3	(5.2)	31.4	103	78	93	147	136
ES	[]	EVERSOURCE ENERGY	DEC	819.5	786.0	525.9	394.7	387.9	335.6	122.1	21.0	19.6	4.3	671	643	431	323	318
EXC	[]	EXELON CORP	DEC	1,623.0	1,719.0	1,160.0	2,495.0	2,563.0	2,706.0	1,844.0	(1.3)	(9.7)	(5.6)	88	93	63	135	139
FE	[]	FIRSTENERGY CORP	DEC	213.0	375.0	770.0	885.0	784.0	1,006.0	895.2	(13.4)	(26.7)	(43.2)	24	42	86	99	88
GXP	†	GREAT PLAINS ENERGY INC	DEC	242.8	250.2	199.9	174.4	211.7	151.6	173.5	3.4	9.9	(3.0)	140	144	115	100	122
HE	†	HAWAIIAN ELECTRIC INDS	DEC	170.2	163.4	140.5	140.1	115.4	84.9	109.6	4.5	14.9	4.2	155	149	128	128	105
IDA	†	IDACORP INC	DEC	193.5	182.4	168.8	166.7	142.8	124.3	77.8	9.5	9.2	6.1	249	234	217	214	184
NEE	[]	NEXTERA ENERGY INC	DEC	2,465.0	1,720.0	1,911.0	1,923.0	1,957.0	1,615.0	887.0	10.8	8.8	43.3	278	194	215	217	221
OGE	†	OGE ENERGY CORP	DEC	395.8	387.6	355.0	342.9	295.3	258.3	153.0	10.0	8.9	2.1	259	253	232	224	193
POM	[]	PEPCO HOLDINGS INC	DEC	242.0	110.0	285.0	260.0	139.0	235.0	261.5	(0.8)	0.6	120.0	93	42	109	99	53
PNW	[]	PINNACLE WEST CAPITAL CORP	DEC	397.6	406.1	387.4	328.2	330.4	82.0	235.2	5.4	37.1	(2.1)	169	173	165	140	140
PNM	†	PNM RESOURCES INC	DEC	116.8	101.0	106.1	176.9	(44.7)	54.0	88.3	2.8	16.7	15.6	132	114	120	200	(51)
PPL	[]	PPL CORP	DEC	1,583.0	1,128.0	1,532.0	1,493.0	955.0	465.0	702.0	8.5	27.8	40.3	225	161	218	213	136
SO	[]	SOUTHERN CO	DEC	2,031.0	1,710.0	2,415.0	2,268.0	2,040.0	1,708.0	1,562.0	2.7	3.5	18.8	130	109	155	145	131
WR	†	WESTAR ENERGY INC	DEC	313.3	292.5	275.1	230.2	203.9	141.3	100.1	12.1	17.3	7.1	313	292	275	230	204
XEL	[]	XCEL ENERGY INC	DEC	1,021.3	948.2	905.2	841.4	752.0	685.5	526.9	6.8	8.3	7.7	194	180	172	160	143

Note: Data as originally reported. CAGR-Compound annual growth rate. ‡S&P 1500 index group. []Company included in the S&P 500. †Company included in the S&P MidCap 400. §Company included in the S&P SmallCap 600.
**Not calculated; data for base year or end year not available.

Ticker		Company	Yr. End	Return on Revenues (%) 2014	2013	2012	2011	2010	Return on Assets (%) 2014	2013	2012	2011	2010	Return on Equity (%) 2014	2013	2012	2011	2010
ELECTRIC UTILITIES‡																		
ALE	§	ALLETE INC	DEC	11.0	10.3	10.1	10.1	8.3	3.2	3.1	3.2	3.4	3.0	8.5	8.2	8.5	9.1	7.9
AEP	[]	AMERICAN ELECTRIC POWER CO	DEC	9.6	9.6	8.4	10.4	8.4	2.8	2.7	2.4	3.1	2.5	9.9	9.5	8.4	11.1	9.1
CNL	†	CLECO CORP	DEC	12.2	14.7	16.5	17.5	22.2	3.6	3.8	4.0	4.8	6.5	9.6	10.4	11.2	14.3	21.0
DUK	[]	DUKE ENERGY CORP	DEC	10.3	10.8	8.8	11.7	9.2	2.1	2.3	2.0	2.8	2.3	6.0	6.4	5.4	7.5	5.9
EIX	[]	EDISON INTERNATIONAL	DEC	11.5	7.8	13.4	0.2	10.5	2.9	1.9	3.3	NM	2.9	13.7	9.1	15.4	NM	12.3
EE	§	EL PASO ELECTRIC CO	DEC	10.0	9.9	10.7	11.3	10.3	3.1	3.2	3.6	4.3	3.9	9.5	10.0	11.5	13.2	11.8
ETR	[]	ENTERGY CORP	DEC	7.7	6.4	8.4	12.2	11.1	2.1	1.6	2.0	3.4	3.3	9.6	7.6	9.3	15.4	14.6
ES	[]	EVERSOURCE ENERGY	DEC	10.6	10.8	8.4	8.8	7.9	2.8	2.8	2.4	2.6	2.7	8.4	8.3	7.9	10.1	10.5
EXC	[]	EXELON CORP	DEC	5.9	6.9	4.9	13.2	13.7	1.9	2.2	1.7	4.6	5.1	7.2	7.8	6.5	17.9	19.6
FE	[]	FIRSTENERGY CORP	DEC	1.4	2.5	5.0	5.4	5.9	0.4	0.7	1.6	2.2	2.3	1.7	2.9	5.8	8.1	9.2
GXP	†	GREAT PLAINS ENERGY INC	DEC	9.5	10.2	8.7	7.5	9.4	2.4	2.6	2.1	1.9	2.4	6.8	7.3	6.3	5.9	7.4
HE	†	HAWAIIAN ELECTRIC INDS	DEC	5.3	5.0	4.2	4.3	4.3	1.6	1.6	1.5	1.5	1.3	9.6	9.7	8.9	9.2	7.8
IDA	†	IDACORP INC	DEC	15.1	14.6	15.6	16.2	13.8	3.5	3.4	3.3	3.5	3.2	10.2	10.1	9.9	10.5	9.7
NEE	[]	NEXTERA ENERGY INC	DEC	14.5	11.4	13.4	12.5	12.8	3.4	2.6	3.1	3.5	3.9	13.0	10.1	12.3	13.1	14.3
OGE	†	OGE ENERGY CORP	DEC	16.1	13.5	9.7	8.8	7.9	4.2	4.1	3.8	4.1	4.0	12.6	13.4	13.3	14.1	13.6
POM	[]	PEPCO HOLDINGS INC	DEC	5.0	2.4	5.6	4.4	2.0	1.6	0.7	1.9	1.8	0.9	5.6	2.5	6.5	6.1	3.3
PNW	[]	PINNACLE WEST CAPITAL CORP	DEC	11.4	11.8	11.7	10.1	10.1	2.9	3.0	2.9	2.6	2.7	9.3	9.9	9.9	8.7	9.4
PNM	†	PNM RESOURCES INC	DEC	8.1	7.3	7.9	10.4	NM	2.1	1.8	2.0	3.4	NM	6.8	6.1	6.6	11.3	NM
PPL	[]	PPL CORP	DEC	13.7	9.5	12.6	11.7	11.2	3.3	2.5	3.6	4.0	3.5	12.1	9.8	14.4	15.7	13.9
SO	[]	SOUTHERN CO	DEC	11.0	10.0	14.6	12.8	11.7	2.9	2.6	3.8	3.9	3.7	10.1	8.8	13.1	13.0	12.7
WR	†	WESTAR ENERGY INC	DEC	12.0	12.3	12.2	10.6	9.9	3.1	3.1	3.0	2.7	2.6	9.9	9.8	9.7	8.9	8.8
XEL	[]	XCEL ENERGY INC	DEC	8.7	8.7	8.9	7.9	7.3	2.9	2.9	3.0	2.9	2.8	10.3	10.3	10.4	10.1	9.7

Note: Data as originally reported. ‡S&P 1500 index group. []Company included in the S&P 500. †Company included in the S&P MidCap 400. §Company included in the S&P SmallCap 600.

				Current Ratio					Debt / Capital Ratio (%)					Net Inc. as % of Oper. Revs.				
Ticker		Company	Yr. End	2014	2013	2012	2011	2010	2014	2013	2012	2011	2010	2014	2013	2012	2011	2010
ELECTRIC UTILITIES‡																		
ALE	§	ALLETE INC	DEC	1.0	1.3	1.0	1.7	1.5	44.2	44.6	43.7	44.3	44.2	11.0	10.3	10.1	10.1	8.3
AEP	[]	AMERICAN ELECTRIC POWER CO	DEC	0.6	0.7	0.7	0.6	0.8	37.3	39.4	39.3	40.1	42.7	9.6	9.6	8.4	10.4	8.4
CNL	†	CLECO CORP	DEC	2.1	1.9	1.5	1.4	1.3	34.6	34.8	35.7	39.2	42.7	12.2	14.7	16.5	17.5	22.2
DUK	[]	DUKE ENERGY CORP	DEC	1.0	1.2	1.0	1.2	1.6	40.5	41.5	41.2	37.8	37.5	10.3	10.8	8.8	11.7	9.2
EIX	[]	EDISON INTERNATIONAL	DEC	0.7	0.7	0.7	1.0	1.1	44.6	46.2	35.1	45.2	41.8	11.5	7.8	13.4	0.2	10.5
EE	§	EL PASO ELECTRIC CO	DEC	1.1	1.3	1.6	0.8	1.8	43.7	41.7	45.7	43.4	43.5	10.0	9.9	10.7	11.3	10.3
ETR	[]	ENTERGY CORP	DEC	1.1	1.0	0.9	0.7	1.6	38.9	39.1	39.8	36.4	39.1	7.7	6.4	8.4	12.2	11.1
ES	[]	EVERSOURCE ENERGY	DEC	0.9	0.6	0.6	0.7	1.1	45.9	44.3	43.7	53.4	55.1	10.6	10.8	8.4	8.8	7.9
EXC	[]	EXELON CORP	DEC	1.4	1.3	1.3	1.1	1.5	35.8	33.8	35.5	34.8	37.2	5.9	6.9	4.9	13.2	13.7
FE	[]	FIRSTENERGY CORP	DEC	0.7	0.5	0.5	0.7	0.8	60.7	55.5	53.7	54.2	59.5	1.4	2.5	5.0	5.4	5.9
GXP	†	GREAT PLAINS ENERGY INC	DEC	0.7	1.0	0.5	0.4	0.5	41.9	43.3	38.8	42.2	45.1	9.5	10.2	8.7	7.5	9.4
HE	†	HAWAIIAN ELECTRIC INDS	DEC	NA	NA	NA	NA	NA	49.6	49.7	49.9	50.1	51.4	5.3	5.0	4.2	4.3	4.3
IDA	†	IDACORP INC	DEC	1.8	1.9	1.0	0.8	1.0	45.3	46.6	45.5	45.6	49.3	15.1	14.6	15.6	16.2	13.8
NEE	[]	NEXTERA ENERGY INC	DEC	0.7	0.6	0.6	0.7	0.8	55.0	57.1	59.1	58.2	55.5	14.5	11.4	13.4	12.5	12.8
OGE	†	OGE ENERGY CORP	DEC	1.2	0.6	0.6	0.7	0.8	45.9	30.8	37.6	39.3	38.8	16.1	13.5	9.7	8.8	7.9
POM	[]	PEPCO HOLDINGS INC	DEC	0.5	0.6	0.5	0.8	1.0	37.7	37.4	34.3	36.7	36.8	5.0	2.4	5.6	4.4	2.0
PNW	[]	PINNACLE WEST CAPITAL CORP	DEC	0.6	0.6	0.9	0.7	0.7	29.8	29.5	44.6	44.1	45.3	11.4	11.8	11.7	10.1	10.1
PNM	†	PNM RESOURCES INC	DEC	0.6	0.8	1.0	1.2	1.0	38.5	39.9	41.7	42.7	41.5	8.1	7.3	7.9	10.4	-2.7
PPL	[]	PPL CORP	DEC	0.8	1.0	0.9	1.2	1.2	50.8	55.2	56.9	55.5	52.5	13.7	9.5	12.6	11.7	11.2
SO	[]	SOUTHERN CO	DEC	0.7	1.0	0.9	1.0	0.9	37.9	40.3	38.9	39.9	41.7	11.0	10.0	14.6	12.8	11.7
WR	†	WESTAR ENERGY INC	DEC	0.8	0.7	0.8	0.8	0.8	40.8	41.0	41.9	40.7	43.5	12.0	12.3	12.2	10.6	9.9
XEL	[]	XCEL ENERGY INC	DEC	0.8	0.9	0.9	0.8	1.1	41.6	42.1	43.1	41.3	44.2	8.7	8.7	8.9	7.9	7.3

Note: Data as originally reported. ‡S&P 1500 index group. []Company included in the S&P 500. †Company included in the S&P MidCap 400. §Company included in the S&P SmallCap 600.

Ticker	Company	Yr. End	Price / Earnings Ratio (High-Low)					Dividend Payout Ratio (%)					Dividend Yield (High-Low, %)				
			2014	2013	2012	2011	2010	2014	2013	2012	2011	2010	2014	2013	2012	2011	2010
ELECTRIC UTILITIES‡																	
ALE	§ ALLETE INC	DEC	20 - 15	21 - 16	16 - 15	16 - 13	17 - 14	67	72	71	67	80	4.4 - 3.4	4.6 - 3.5	4.9 - 4.3	5.1 - 4.2	5.9 - 4.6
AEP	[] AMERICAN ELECTRIC POWER CO	DEC	19 - 14	17 - 14	17 - 14	13 - 10	15 - 11	61	64	72	57	68	4.4 - 3.2	4.7 - 3.8	5.1 - 4.1	5.6 - 4.4	6.1 - 4.5
CNL	† CLECO CORP	DEC	23 - 18	19 - 15	17 - 13	12 - 9	8 - 6	61	54	48	35	23	3.4 - 2.6	3.5 - 2.8	3.6 - 2.9	3.7 - 2.9	4.0 - 3.1
DUK	[] DUKE ENERGY CORP	DEC	25 - 19	20 - 17	24 - 20	17 - 13	19 - 15	91	83	101	77	97	4.7 - 3.6	4.8 - 4.1	5.1 - 4.3	5.9 - 4.5	6.3 - 5.2
EIX	[] EDISON INTERNATIONAL	DEC	16 - 10	20 - 16	10 - 9	NM - NM	10 - 8	34	51	28	NM	33	3.3 - 2.2	3.1 - 2.5	3.3 - 2.7	3.9 - 3.1	4.2 - 3.2
EE	§ EL PASO ELECTRIC CO	DEC	19 - 15	18 - 14	16 - 13	14 - 11	14 - 9	49	47	43	27	0	3.3 - 2.6	3.3 - 2.7	3.3 - 2.7	2.5 - 1.8	0.0 - 0.0
ETR	[] ENTERGY CORP	DEC	18 - 12	18 - 15	16 - 13	10 - 8	13 - 10	63	83	70	44	48	5.5 - 3.6	5.5 - 4.6	5.4 - 4.5	5.8 - 4.5	4.7 - 3.8
ES	[] EVERSOURCE ENERGY	DEC	22 - 16	18 - 16	22 - 18	16 - 14	15 - 11	61	59	70	50	47	3.8 - 2.8	3.8 - 3.2	4.0 - 3.2	3.7 - 3.0	4.2 - 3.2
EXC	[] EXELON CORP	DEC	21 - 14	19 - 13	31 - 20	12 - 10	13 - 4	66	72	148	56	54	4.7 - 3.2	5.5 - 3.8	7.4 - 4.8	5.4 - 4.6	12.5 - 4.2
FE	[] FIRSTENERGY CORP	DEC	80 - 59	52 - 35	28 - 22	21 - 16	18 - 13	282	244	119	99	85	4.8 - 3.5	7.0 - 4.7	5.4 - 4.3	6.1 - 4.7	6.6 - 4.7
GXP	† GREAT PLAINS ENERGY INC	DEC	19 - 15	15 - 13	17 - 14	17 - 13	13 - 11	60	54	63	66	54	3.9 - 3.2	4.3 - 3.5	4.4 - 3.7	5.1 - 3.8	5.0 - 4.2
HE	† HAWAIIAN ELECTRIC INDS	DEC	21 - 14	17 - 15	20 - 17	18 - 14	20 - 15	75	76	87	86	102	5.5 - 3.5	5.2 - 4.4	5.2 - 4.2	6.0 - 4.6	6.7 - 5.0
IDA	† IDACORP INC	DEC	18 - 13	15 - 12	14 - 11	13 - 10	13 - 10	46	43	41	36	41	3.5 - 2.5	3.6 - 2.9	3.6 - 3.0	3.5 - 2.8	4.0 - 3.2
NEE	[] NEXTERA ENERGY INC	DEC	20 - 15	22 - 17	16 - 13	13 - 11	12 - 9	51	65	52	48	42	3.5 - 2.6	3.8 - 2.9	4.1 - 3.3	4.5 - 3.6	4.4 - 3.6
OGE	† OGE ENERGY CORP	DEC	20 - 17	20 - 14	17 - 14	16 - 12	15 - 11	46	43	44	43	48	2.8 - 2.4	3.0 - 2.1	3.1 - 2.6	3.7 - 2.6	4.3 - 3.1
POM	[] PEPCO HOLDINGS INC	DEC	29 - 19	50 - 40	16 - 15	18 - 14	32 - 24	113	240	86	94	174	5.8 - 3.9	6.0 - 4.8	6.0 - 5.3	6.5 - 5.2	7.1 - 5.5
PNW	[] PINNACLE WEST CAPITAL CORP	DEC	20 - 14	17 - 14	15 - 13	16 - 12	14 - 10	64	60	60	70	68	4.5 - 3.2	4.3 - 3.6	4.6 - 3.9	5.6 - 4.3	6.5 - 4.9
PNM	† PNM RESOURCES INC	DEC	22 - 16	19 - 16	17 - 13	10 - 6	NM - NM	51	51	42	25	NM	3.1 - 2.3	3.2 - 2.6	3.2 - 2.5	3.9 - 2.6	4.6 - 3.6
PPL	[] PPL CORP	DEC	16 - 12	18 - 15	12 - 10	11 - 9	15 - 11	62	79	55	52	63	5.1 - 3.9	5.2 - 4.4	5.4 - 4.8	5.8 - 4.6	5.9 - 4.3
SO	[] SOUTHERN CO	DEC	23 - 18	26 - 21	18 - 15	18 - 14	16 - 13	95	107	72	73	76	5.2 - 4.1	5.0 - 4.1	4.7 - 4.0	5.2 - 4.0	5.8 - 4.7
WR	† WESTAR ENERGY INC	DEC	18 - 13	15 - 12	15 - 12	15 - 12	14 - 11	58	59	61	66	69	4.4 - 3.2	4.8 - 3.9	4.9 - 4.0	5.7 - 4.4	6.0 - 4.8
XEL	[] XCEL ENERGY INC	DEC	19 - 13	17 - 14	16 - 14	16 - 12	15 - 12	59	58	58	60	62	4.4 - 3.2	4.1 - 3.5	4.1 - 3.6	4.9 - 3.7	5.1 - 4.1

Note: Data as originally reported. ‡S&P 1500 index group. []Company included in the S&P 500. †Company included in the S&P MidCap 400. §Company included in the S&P SmallCap 600.

Ticker		Company	Yr. End	Earnings per Share ($) 2014	2013	2012	2011	2010	Tangible Book Value per Share ($) 2014	2013	2012	2011	2010	Share Price (High-Low, $) 2014	2013	2012	2011	2010
ELECTRIC UTILITIES‡																		
ALE	§	ALLETE INC	DEC	2.91	2.64	2.59	2.66	2.20	35.04	32.44	30.48	28.78	27.26	57.97 - 44.19	54.13 - 41.39	42.66 - 37.73	42.54 - 35.14	37.95 - 29.99
AEP	[]	AMERICAN ELECTRIC POWER CO	DEC	3.34	3.04	2.60	3.25	2.53	34.17	32.77	31.14	30.18	28.17	63.22 - 45.80	51.60 - 41.83	45.41 - 36.97	41.71 - 33.09	37.94 - 28.17
CNL	†	CLECO CORP	DEC	2.56	2.66	2.71	3.24	4.23	25.43	24.48	22.84	21.33	19.36	59.21 - 45.52	50.42 - 40.39	45.30 - 36.15	38.31 - 30.06	31.76 - 24.32
DUK	[]	DUKE ENERGY CORP	DEC	3.46	3.74	3.01	3.84	3.00	34.36	34.86	34.27	41.68	41.08	87.29 - 67.05	75.46 - 64.16	71.14 - 59.63	66.37 - 50.62	55.81 - 46.41
EIX	[]	EDISON INTERNATIONAL	DEC	4.38	2.70	4.61	(0.10)	3.83	33.64 J	30.50 J	28.95 J	30.86 J	32.48 J	68.74 - 44.74	54.19 - 44.26	47.96 - 39.60	41.57 - 32.64	39.37 - 30.37
EE	§	EL PASO ELECTRIC CO	DEC	2.27	2.20	2.27	2.49	2.08	24.46	23.51	20.61	19.10	19.04	42.17 - 33.44	39.12 - 31.84	35.34 - 29.17	35.71 - 26.65	28.65 - 18.74
ETR	[]	ENTERGY CORP	DEC	5.24	3.99	4.77	7.59	6.72	53.73	51.89	49.60	48.67	45.42	92.02 - 60.40	72.60 - 60.22	74.50 - 61.55	74.50 - 57.60	84.33 - 68.65
ES	[]	EVERSOURCE ENERGY	DEC	2.59	2.49	1.90	2.22	2.20	20.37	19.32	18.21	21.03	19.97	56.66 - 41.28	45.66 - 38.60	40.86 - 33.48	36.47 - 30.02	32.21 - 24.68
EXC	[]	EXELON CORP	DEC	1.89	2.01	1.42	3.76	3.88	23.19	23.45	22.00	17.73	16.52	38.93 - 26.45	37.80 - 26.64	43.70 - 28.40	45.45 - 39.06	49.88 - 16.78
FE	[]	FIRSTENERGY CORP	DEC	0.51	0.90	1.85	2.22	2.58	13.08	13.58	14.19	16.35	9.74	40.84 - 29.98	46.77 - 31.29	51.14 - 40.37	46.51 - 36.11	47.09 - 33.57
GXP	†	GREAT PLAINS ENERGY INC	DEC	1.57	1.62	1.36	1.27	1.55	22.17	21.48	20.65	20.50	20.02	29.46 - 23.75	24.88 - 20.39	22.85 - 19.45	22.09 - 16.34	19.73 - 16.63
HE	†	HAWAIIAN ELECTRIC INDS	DEC	1.65	1.63	1.43	1.45	1.22	16.66	16.24	15.44	15.10	14.80	35.00 - 22.70	28.30 - 23.84	29.24 - 23.65	26.79 - 20.59	24.99 - 18.63
IDA	†	IDACORP INC	DEC	3.86	3.64	3.38	3.37	2.96	38.58	36.53	34.71	32.78	30.56	70.05 - 50.21	54.74 - 43.13	45.67 - 38.17	42.66 - 33.88	37.76 - 29.98
NEE	[]	NEXTERA ENERGY INC	DEC	5.67	4.06	4.59	4.62	4.77	44.96 J	41.47 J	37.90 J	35.92 J	34.36 J	110.84 - 83.97	89.75 - 69.81	72.22 - 58.57	61.20 - 49.00	56.26 - 45.29
OGE	†	OGE ENERGY CORP	DEC	1.99	1.96	1.80	1.75	1.51	16.27	15.30	13.16	12.17	11.73	39.28 - 32.85	40.00 - 27.69	30.10 - 25.11	28.58 - 20.28	23.09 - 16.93
POM	[]	PEPCO HOLDINGS INC	DEC	0.96	0.45	1.25	1.15	0.62	11.53	11.62	13.21	12.87	12.54	27.92 - 18.53	22.72 - 18.04	20.48 - 18.14	20.64 - 16.57	19.80 - 15.13
PNW	[]	PINNACLE WEST CAPITAL CORP	DEC	3.59	3.69	3.54	3.01	3.10	39.50 J	38.07 J	36.20 J	33.42	32.16	71.11 - 51.15	61.89 - 51.50	54.66 - 45.95	48.87 - 37.28	42.68 - 32.31
PNM	†	PNM RESOURCES INC	DEC	1.46	1.26	1.32	1.98	(0.49)	18.12	17.52	16.70	16.27	13.72	31.60 - 23.53	24.53 - 20.06	22.54 - 17.29	19.17 - 12.75	13.96 - 10.81
PPL	[]	PPL CORP	DEC	2.41	1.85	2.62	2.70	2.21	13.06	11.57	9.27	9.77	11.34	38.14 - 29.40	33.55 - 28.44	30.18 - 26.68	30.27 - 24.10	32.77 - 23.75
SO	[]	SOUTHERN CO	DEC	2.19	1.88	2.70	2.57	2.37	21.98 J	21.43 J	21.09 J	20.32 J	19.21 J	51.28 - 40.27	48.74 - 40.03	48.59 - 41.75	46.69 - 35.73	38.62 - 30.85
WR	†	WESTAR ENERGY INC	DEC	2.40	2.29	2.15	1.95	1.81	25.02 J	23.88 J	22.89 J	22.03 J	21.25 J	43.15 - 31.67	34.96 - 28.59	33.04 - 26.80	29.05 - 22.63	25.90 - 20.56
XEL	[]	XCEL ENERGY INC	DEC	2.03	1.91	1.86	1.72	1.62	20.20 J	19.21 J	18.19 J	17.44 J	16.76 J	37.58 - 27.27	31.79 - 26.77	29.92 - 25.84	27.78 - 21.20	24.36 - 19.81

Note: Data as originally reported. ‡S&P 1500 index group. []Company included in the S&P 500. †Company included in the S&P MidCap 400. §Company included in the S&P SmallCap 600. J-This amount includes intangibles that cannot be identified.

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THE COST OF CAPITAL TO A PUBLIC UTILITY

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RWP-25
McKenzie
Page 1 of 3

Table 3. ***Regression of Average Growth Rate on Dividend Yield and Risk Variables, 1958–1968***

$GRAV = \alpha_0 + \alpha_1\ DIYD + \alpha_2\ LEVM + \alpha_3\ PEE + \alpha_4\ QLE$

Year	α_0	α_1	α_2	α_3	α_4	*Cor. Coef.*
1958	.1376	−2.364	.0015	.0057	−.0085	.868
		−10.07	.24	.64	−1.01	
1959	.1536	−2.093	.0021	−.0167	−.0170	.881
		−10.89	.36	−2.19	−2.56	
1960	.1337	−1.844	−.0053	−.0088	−.0188	.898
		−10.22	−.10	−1.36	−2.87	
1961	.1210	−1.755	−.0105	−.0095	−.0113	.848
		−7.84	−1.48	−1.49	−1.52	
1962	.1372	−2.234	−.0007	−.0102	−.0161	.854
		−9.06	−.10	−1.58	−2.18	
1963	.1281	−2.269	.0016	.0002	−.0076	.871
		−9.67	.23	.04	−1.10	
1964	.1427	−2.258	−.0099	−.0125	−.0173	.862
		−8.76	−1.28	−2.04	−2.17	
1965	.1289	−1.818	−.0041	−.0098	−.0065	.857
		−8.10	−.66	−1.74	−.80	
1966	.1309	−1.415	−.0044	−.0142	.0028	.911
		−10.34	−1.01	−3.06	.46	
1967	.1164	−1.020	−.0088	−.0079	−.0093	.857
		−8.12	−1.97	−1.51	−1.34	
1968	.1324	−1.552	−.0061	−.0068	−.0015	.801
		−7.44	−.98	−.92	−.18	

NOTE: Numbers below regression coefficients are their *t* values.

While GRAVC is superior to GRAV, we cannot be certain that GRAVC is, in fact, completely free of error. Assume that the true value of expected growth is GTRU and that the relation between GRAV(*J,T*) and GTRU(*J,T*) is

$$GRAV(J,T) = \lambda_0 + \lambda_1\ GTRU(J,T) + ERR(J,T), \qquad (5.6.6)$$

with $\lambda_0 \neq 0$ or $\lambda_1 \neq 1$. GRAVC eliminates the error in GRAV due to ERR, but it does not correct for systematic bias in GRAV. GRAVC will have systematic error if investors believe that, across

all firms, GRAV is on average above or below the growth they expect to prevail in the future. While this is possible, there appears little ground for believing it to be true for utility companies.

If GRAVC is the rate of growth investors expect, the yield they require on a share is

$$KGAVC = DIYD + GRAVC. \qquad (5.6.7)$$

Table 4 presents the sample means and standard deviations of GRAVC for 1958–1968 and, for comparison, the interest rate on

Table 4. ***Sample Means and Standard Deviations of Share Yield Based on Predicted Growth Rate, GRAVC, 1958–1968***

	Share yield		
Year	*Mean*	*Std. dev.*	*Yield on Aa bonds*
1958	.0910	.0097	.0422
1959	.0966	.0081	.0471
1960	.0909	.0070	.0449
1961	.0835	.0056	.0450
1962	.0885	.0068	.0431
1963	.0885	.0068	.0439
1964	.0889	.0067	.0446
1965	.0912	.0049	.0475
1966	.0993	.0041	.0546
1967	.1028	.0023	.0640
1968	.0976	.0045	.0675

Aa rated bonds.[7] KGAVC follows the broad movement in AAR over the eleven-year period, but from one year to the next they do not always move together. The spread between KGAVC and AAR appears large, but it is not beyond the bounds of reason.

5.7 *Finite Horizon Growth Models*

A number of writers have questioned the validity of share value models based on the assumption that the current rate of growth

[7]Share yield based on GRAV instead of GRAVC has the same sample mean in each year, but the standard deviation averages about one-third larger.

in the dividend is expected to prevail forever.[8] If the dividend is expected to grow for N periods at the rate GRAV and thereafter at a long-run normal rate of GRLR, and if investors require a yield of KGON on the share, its price is given by the expression

$$\mathrm{PPS}(T) = \sum_{t=1}^{N} \frac{\mathrm{DIV}(T)\,[1 + \mathrm{GRAV}]^t}{[1 + \mathrm{KGON}]^t} + \frac{\mathrm{DIV}(T)\,[1 + \mathrm{GRAV}]^N [1 + \mathrm{GRLR}]}{[\mathrm{KGON} - \mathrm{GRLR}]\,[1 + \mathrm{KGON}]^N}. \tag{5.7.1}$$

Given KGON, N, and GRLR in addition to DIV and GRAV, Eq. (5.7.1) can be used to arrive at the price at which a share should sell. However, we know PPS and want to establish KGON. This may be done if GRLR and N are known. The solution of Eq. (5.7.1) for KGON also will produce a measure of growth that is a weighted average of GRAV and GRLR, its value depending on their relative magnitudes and the value of N. The growth rate equivalent to GRAV for N periods and GRLR thereafter is

$$\mathrm{GRON} = \mathrm{KGON} - \mathrm{DIV}\,[1 + \mathrm{GRAV}]/\mathrm{PPS} \tag{5.7.2}$$

An investigator who has reason to believe that a firm's dividend is expected to grow at the rate GRAV for N periods and at the rate GRLR thereafter reasonably might use this information to arrive at KGON and consider this measure of share yield superior to KGAV or even KGAVC. One advantage of KGON over KGAV is that the former does not require the regression analysis of sample data to arrive at the share yield for a firm. A more important advantage is that it is free of the systematic as well as the random errors of measurement in GRAV discussed in the previous section.

The problem involved in using Eq. (5.7.1) to arrive at an error-free measure of share yield is in arriving at the values of N and GRLR. Without special information N and GRLR must be assigned the same values for all corporations. However, doing so would not eliminate the random error, and it would not eliminate the systematic error unless the values assigned to N and GRLR were the correct ones for all firms in the sample. These are very brave assumptions.

[8] For example, see B. G. Malkiel [29] and R. M. Soldofsky and J. T. Murphy [42].

Conceivably, we could test a set of values for N and GRLR as follows. Compute KGON and GRON for each firm. Regress DIYD on GRON and the risk variables. If the multiple correlation is higher with GRON than with GRAV as the growth variable, it is a better measure of growth. All possible combinations of N and GRLR could not be tested. Instead, GRLR = .045 was used on the assumption that this value could not be far off the mark, and GRON was tested for various values of N in the interval five to thirty years. The hypothesis was that if the multiple correlation reached a maximum for a value in the interval $5 \leq N \leq 30$, that value of N is the horizon and that value of GRON is the best estimate of the growth investors expect. What we found was that as N goes from five to infinity (GRON = GRAV when $N = \infty$) the multiple correlation fell, reaching a minimum at about $N = 15$, and then rose continuously. There is undoubtedly some technical explanation for these results, but regardless of the explanation the assumption of a common finite horizon for all shares cannot be used to obtain a better measure of growth than GRAV. Compared with KGAV, KGON eliminates neither the random nor the systematic error under the estimating methods available to us.

5.8 The Earnings Yield

The earnings yield on a share has been widely used as a measure of share yield both in regulatory proceedings and in empirical research on security valuation.[9] Therefore, an examination of alternative measures of share yield is not complete without considering this alternative.

There are two conditions under which the earnings yield on a share is an accurate measure of the yield at which the share is selling. The derivation of Eq. (2.2.1) established that the earnings yield is correct when a firm pays all of its earnings in dividends, engages in no outside financing, and when, as a consequence, its dividends are not expected to grow. Without even looking at the

[9] On the latter see, for example, J. F. Weston [48] and Miller and Modigliani [32]. H. Benishay [3], D. H. Bower and R. S. Bower [4], and B. G. Malkiel and J. G. Cragg [30] used the price/earnings ratio in their empirical work.

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RWP-26
McKenzie
Page 1 of 2

so that the current value can be widely off the mark as a measure of the expected future value.

5.4 Other Measures of Growth

The measure of expected growth in the dividend established in the previous two sections, the intrinsic growth rate, is not the only possible measure of the variable. Another plausible measure is some average of the past rates of growth in the dividend. Under our model of security valuation, dividend, earnings, and price per share all are expected to grow at the same rate. Hence, the rates of growth in the dividend, earnings, and price also are candidates for estimates of the expected rate of growth in the dividend.

Let us consider first the rate of growth in earnings per share. The earnings per share during T adjusted for stock splits and stock dividends to make interperiod comparisons valid is

$$\mathrm{AYPS}(T) = \mathrm{AFC}(T)/.5\,[\mathrm{ANS}(T) + \mathrm{ANS}(T-1)], \tag{5.4.1}$$

where ANS(T) is the number of shares outstanding at the end of T adjusted for stock splits and dividends. The rate of growth in earnings per share during T is

$$\mathrm{YGR}(T) = [\mathrm{AYPS}(T) - \mathrm{AYPS}(T-1)]/\mathrm{AYPS}(T-1). \tag{5.4.2}$$

For reasons to be given shortly, the smoothed rate of growth in earnings is superior to the current rate as a forecast of the expected rate. The smoothed rate of earnings growth is obtained from

$$Ln[1 + \mathrm{YGRS}(T)] = \lambda Ln[1 + \mathrm{YGR}(T)] + (1 - \lambda) Ln[1 + \mathrm{YGRS}(T-1)], \tag{5.4.3}$$

with $\lambda = .15$ and YGRS(1953) = .04.

The primary reason for a difference between YGR and GRTH is a change in the rate of return on the common equity. To illustrate, assume a firm that has been earning a return on common of .10 and retaining one-half of its income to finance its investment. The rate of growth under both measures will be .05. If the firm's rate

of return on common rises from .10 to .11, the retention growth rate will rise from .05 to (.5)(.11) = .055. However, the earnings growth rate will rise from .05 to .155.[5] Furthermore, the earnings growth rate in subsequent periods will be .055 if the return on common remains .11. This example suggests that the intrinsic growth rate is superior to the earnings growth rate as a measure of expected growth. Investors nonetheless may look to past data on earnings growth for information on expected future growth, and it is the growth investors expect that should be used to measure share yield.

A number of considerations suggest that investors may, in fact, use earnings growth as a measure of expected future growth. First, the intrinsic growth rate includes stock financing growth as well as retention growth. The former is difficult for us to measure and may be even more difficult for investors. Consequently, investors may use past earnings growth to forecast the future since it incorporates in one statistic growth from all sources. Second, we saw that inflation will result in a rise in the allowed rate of return on equity for a regulated company. If this response to inflation takes place with a lag, that is, the regulatory agency raises RRC over time, earnings growth will reflect the forecast rate of growth better than intrinsic growth. Finally, it appears that security analysts use past growth in earnings more than any other variable to forecast future growth.

Given that earnings growth is used by investors to forecast future growth, the smoothed value of the variable YGRS is superior to the current value. The previous illustration revealed that YGR overreacts to changes in the allowed rate of return and therefore is subject to large random fluctuations. The data on YGR confirm this conclusion.

The use of dividend growth as a forecast of future growth is subject to the same limitations as earnings if the firm pays a constant fraction of its earnings in dividends. That is, under this assumption the dividend growth rate in any period is the same as the earnings growth rate. Firms tend to change their dividend rate from one

[5] Let the book value per share at the start of T be BVS(T − 1) = \$50.00. With RRC(T) = .10, AYP(T) = \$5.00, and with RETR(T) = .5, BVS(T) = \$52.50. If RRC(T + 1) = .10, AYP(T + 1) = \$5.25, and YGR(T + 1) = RTGR(T − 1) = .05. However, if RRC(T + 1) = .11, RTGR(T + 1) = (.11)(.5) = .055, while AYP(T + 1) = \$5.775, and YGR(T + 1) = (\$5.775 − \$5.00)/\$5.00 = .155.

What's Growth Got to Do With It? *Equity Returns and Economic Growth*

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Economic growth is generally considered to be an important driver of equity market performance because higher economic growth should lead to higher corporate earnings growth and this in turn should translate into higher stock market returns at least in the long run. As long as corporate profit margins, expressed as earnings divided by GDP, are stationary, this relationship should hold, and there is empirical evidence that, at least for the United States, profit margins are stationary (Cornell [2010]). But it is unclear whether this assumption also holds for small open economies like Switzerland, South Korea, or Taiwan, which are largely dependent on global exports. It is well possible that the cross-country correlation between equity market returns and gross domestic product (GDP) growth is low if globalization leads to shifts in competitive positions and global market shares for products and services that are reflected in the performance of local equity markets.

Ritter [2005, 2012] shows that cross-country correlations between real equity market returns and real GDP per capita growth is low, or even negative, for both developed and emerging markets. This effect may have many explanations. Estrada [2012] mentions the international diversification of global large-cap firms that dominate the performance of local market indexes. These global mega-caps have significant exposure to fast-growing international markets and thus may be more exposed to the global growth environment than the growth environment of their home market. This is especially true for smaller open economies that depend heavily on international exports of their products and services. The performance of the stocks of companies like Nestle or Samsung arguably depends only to a small extent on the economic growth of Switzerland or Korea. For example, Nestle generates only about 3% of its total revenues in Switzerland, and Samsung generates only 14% of its global revenue in South Korea. Also, population growth, destruction during war times, and resource shocks such as the discovery of North Sea oil in the 20th century might influence growth as well as equity market performance of individual countries over extended periods of time (Dimson et al. [2014]).

If smaller companies are less internationally diversified, then the cross-country correlation between small and mid-cap equity market returns and GDP per capita growth should be higher than for large-cap equities, because small and mid-cap equities are typically less dominated by internationally diversified companies. Fama and French [1992] argue that the size premium observed in their data may be due to the higher risk of small-cap stocks because these companies are more exposed to the local economy and have fewer possibilities to shield themselves from this environment.

Although there is increasing evidence that this size premium may have disappeared since its discovery in the early 1980s (Horowitz et al. [2000a, 2000b]), a higher correlation between local economic growth and equity market returns might still exist. In this article, we follow in the footsteps of Ritter [2005] and investigate the correlation across countries between GDP per capita growth and small- and mid-cap equity market returns.

METHODOLOGY

We investigate the equity market returns of 22 developed and 22 emerging markets for large-cap, mid-cap, and small-cap stocks. In order to have consistent market data, we use MSCI indexes for each country, downloaded from Thomson Financial Datastream. MSCI has provided consistent large-cap, mid-cap, and small-cap indexes for these countries since 1994 and for most emerging markets since 1997. Thus, we use annual total returns between 1997 and 2013 as the basis of our investigation. Ritter [2012] has shown that at least for large-cap equities, the resulting cross-country correlation between real total returns in local currencies and real GDP per capita growth is low for both very long time periods spanning more than a century as well as shorter time periods of two decades. Our data sample is shorter than two decades but still covers at least two full business cycles in each country, so that the results should still be representative of a general trend, even though our data is less comprehensive than the data available for large-cap equity market indexes.

In order to calculate real equity market returns and real per capita GDP growth, we use consumer price inflation data and real per capita GDP data from the International Monetary Fund (IMF) available on the IMF website. Since official statistics are released only with some delay, we used IMF estimates for 2012 and 2013 in our analysis.

Low Correlation Prevails for Small- and Mid-Cap Equities

Exhibit 1 summarizes the mean geometric return after inflation in local currencies for the 44 countries under investigation. Data is shown for the MSCI large-cap, mid-cap and small-cap indexes between

EXHIBIT 1

Equity Market Returns and Economic Growth in 44 Countries

	Real Geometric Return in % P.A.					Real Geometric Return in % P.A.			
Country	Large Cap	Mid Cap	Small Cap	GDP/ Capita	Country	Large Cap	Mid Cap	Small Cap	GDP/ Capita
Australia	4.8	2.7	0.6	1.8	Argentina	–24.0	–15.7	n.a.	2.5
Austria	–12.8	–30.7	3.7	1.5	Brazil	1.6	0.0	3.4	1.7
Belgium	–6.6	2.0	0.0	1.1	Chile	2.2	4.1	0.5	2.9
Canada	3.8	6.9	2.6	1.5	China	–9.5	–7.3	0.2	8.5
Denmark	4.1	6.0	–0.7	0.7	Colombia	–4.5	–12.6	–1.0	2.0
Finland	–6.9	3.6	0.9	1.8	Czech Rep.	–0.3	–12.2	–1.0	2.1
France	1.6	4.0	–0.8	0.9	Greece	–26.2	–13.4	n.a.	0.6
Germany	1.1	–1.1	–1.0	1.3	Hungary	–8.1	–39.4	–10.0	2.2
Hong Kong	0.4	–2.9	–0.9	2.7	India	–1.7	–0.4	–4.6	4.8
Ireland	–7.4	–14.3	5.0	2.4	Indonesia	–7.7	–11.0	–22.8	2.3
Italy	–1.2	–0.5	–5.0	0.0	Israel	–0.7	–6.1	n.a.	1.7
Japan	–3.8	–1.5	1.0	0.6	Korea	–0.3	–7.9	–8.5	3.3
Netherlands	0.6	–3.2	–2.9	1.2	Malaysia	–2.3	–3.9	–10.7	2.2
New Zealand	n.a.	4.9	6.2	1.4	Mexico	6.3	–15.0	–2.6	1.1
Norway	2.5	–2.5	–5.3	1.1	Peru	–15.6	–29.5	–7.4	3.3
Portugal	–16.6	–5.8	–2.6	0.7	Philippines	–7.4	–10.5	–14.6	2.4
Singapore	–3.4	–3.6	0.9	2.6	Poland	–10.2	–3.8	–9.9	3.9
Spain	1.6	2.1	0.7	1.1	Russia	–36.4	–60.7	–56.3	4.2
Sweden	1.2	5.2	5.4	1.9	South Africa	5.3	4.5	7.8	1.8
Switzerland	3.7	1.0	1.0	1.1	Taiwan	–3.5	–9.1	–8.8	3.3
U.K.	2.5	3.0	3.0	1.4	Thailand	–9.1	–10.1	–9.2	2.0
USA	2.3	4.2	5.7	1.4	Turkey	–16.0	–13.9	–13.9	2.2

January 1, 1997, and December 31, 2013. We also show the real GDP per capita growth per annum over the same period. Visual inspection shows that the variation between GDP per capita growth and equity market returns is large. Singapore and Hong Kong, for example, show the highest GDP per capita growth of all developed countries but some of the lowest equity market returns, whereas Australia and New Zealand achieved some of the highest equity market returns, with average or below average GDP per capita growth.

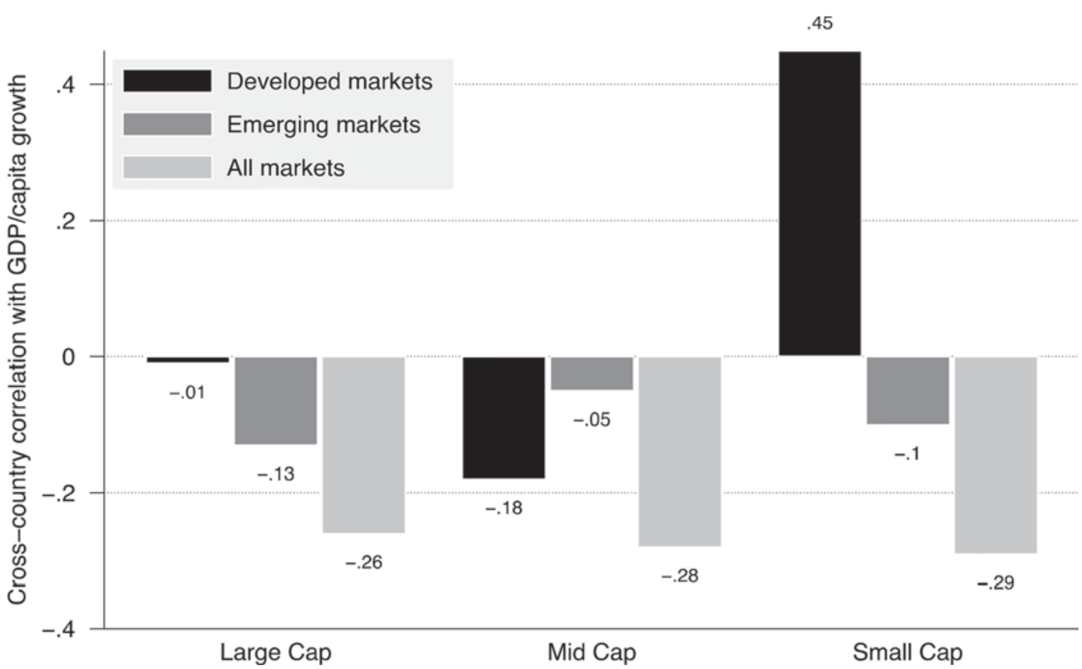
Exhibit 2 shows the resulting cross-country correlations for developed markets, emerging markets, and all 44 markets in our sample. We show correlations for large-cap, mid-cap, and small-cap stock indexes. The cross-country correlation for all size segments is generally comparable in size and—more importantly—negative across all markets. The results for large-cap stock indexes confirm the results of Ritter [2005, 2012] and are generally on the same order of magnitude as his. The results for mid-cap and small-cap equities expand these prior results and show that smaller-size corporations do not offer a higher exposure to local growth. There is a somewhat positive correlation for small-cap stocks in developed countries, but this correlation—just like all the other correlations observed here—is not significantly different from zero. Thus, we are unable to find a meaningful and statistically significant correlation between real stock market returns and real GDP per capita growth for any of our size indexes.

These results are in stark contrast to the rather high positive correlation between valuation measures such as the price-earnings ratio or the cyclically adjusted price-earnings ratio and real equity market returns (Campbell and Shiller [2001] and Klement [2012]). Thus, it seems that stock market returns are predominantly driven by valuations and not economic growth. Investors seem to price in future growth and reflect it in current market valuations no matter whether one looks at large, medium, or small enterprises.

In order to investigate the relationship between global growth and stock market returns, we have also calculated the cross-country correlation with global GDP per capita growth and found no significant correlation. Some countries that are more dependent on exports, like Germany, Italy, Switzerland, or Korea, show higher correlation with global growth than with their local market growth when compared to bigger, more domestically oriented economies like the United

EXHIBIT 2

Cross-Country Correlation between Stock Market Returns and GDP Per Capita Growth



States and India but also China. Nevertheless, these correlations remain small and only slightly positive.

Cross-Country Correlations between Earnings and GDP Per Capita Growth

Even though valuations seem to capture most of the anticipated growth of a country, earnings growth may still be linked to economic growth of a country. Thus, we have calculated real earnings growth for large-cap equities in the 44 countries under investigation here. In Exhibit 3, we show the real earnings growth and the real GDP per capita growth, together with the cross-country correlations between the two variables. Again, the correlations remain close to zero and may even be negative.

Paradoxical as this may sound, there are good reasons why the correlation between earnings growth and real GDP per capita growth may be low across countries. First, earnings growth depends on the growth of productivity as well as the growth in input factors like labor and capital. Thus real earnings growth may be high even when GDP per capita growth is low if a country's population grows rapidly. Dimson et al. [2014] show how countries like Australia, Switzerland, South Africa, or the United States, where immigration and population growth are major determinants of economic growth, profited from these effects. On the other hand, some countries, like Germany or Japan, that have rather limited population growth still enjoyed high real earnings growth in the past, whereas many emerging markets showed low real earnings growth despite high population growth rates. The high real earnings growth despite low population growth and low GDP per capita growth may reflect the ability of enterprises in these regions to capture market shares around the globe at the cost of other local and international competitors. Also, as Bernstein and Arnott [2003] have pointed out, entrepreneurial activities dilute earnings growth because the capital invested in

EXHIBIT 3
Real Earnings Growth and Economic Growth in 44 Countries

Country	Real Earnings Growth in % P.A.	GDP/Capita	Country	Real Earnings Growth in % P.A.	GDP/Capita
Australia	3.5	1.8	Argentina	29.1	2.5
Austria	3.3	1.5	Brazil	–9.1	1.7
Belgium	1.2	1.1	Chile	1.4	2.9
Canada	5.4	1.5	China	3.9	8.5
Denmark	7.0	0.7	Colombia	7.9	2.0
Finland	4.3	1.8	Czech Rep.	n.a.	2.1
France	9.0	0.9	Greece	–5.6	0.6
Germany	6.5	1.3	Hungary	2.1	2.2
Hong Kong	3.1	2.7	India	2.4	4.8
Ireland	–7.4	2.4	Indonesia	2.2	2.3
Italy	0.8	0.0	Israel	n.a.	1.7
Japan	8.2	0.6	Korea	8.8	3.3
Netherlands	1.1	1.2	Malaysia	2.7	2.2
New Zealand	–0.6	1.4	Mexico	5.8	1.1
Norway	n.a.	1.1	Peru	7.1	3.3
Portugal	n.a.	0.7	Philippines	2.9	2.4
Singapore	5.6	2.6	Poland	1.1	3.9
Spain	–2.3	1.1	Russia	7.3	4.2
Sweden	3.6	1.9	South Africa	3.9	1.8
Switzerland	7.0	1.1	Taiwan	n.a.	3.3
U.K.	2.0	1.4	Thailand	–0.7	2.0
USA	3.7	1.4	Turkey	3.6	2.2
Correlation with growth	–0.25		Correlation with growth	+0.13	
Cross-Country Correlation Across All Countries					
Correlation with growth	**+0.09**				

newly founded, nonlisted companies does reduce future earnings growth of listed companies while increasing GDP growth.

We emphasize that these results do not refute the claim that earnings divided by GDP are stationary in large economies like the United States since we look only at cross-country correlations not correlation over time. But it does cast some doubt whether earnings divided by GDP are stationary in small, open economies that have been able to profit from globalization and captured international market share from competitors. After all, if profit margins were stationary for each individual country around the world, earnings should necessarily grow in proportion to GDP over the long run and the correlation between real earnings growth and real GDP growth should be high across countries. The fact that this is not observed indicates that international competition shifts earnings growth between regions.

CONCLUSION

Equity market returns are largely uncorrelated with economic growth across the world, not only for large international companies but also for small- and medium-size enterprises. It seems that independent of size, stock market valuations incorporate future growth expectations into the price of stocks so that correlations between economic growth and stock market returns remain low whereas correlations between valuation measures like the price-earnings ratio and stock market returns are high.

It is likely that in our globalized world, real corporate earnings growth across countries is uncorrelated with GDP per capita growth because international competition, differences in population growth, and differences in competitiveness have a significant influence on the development of real earnings growth as well.

For investors around the world, these findings are good and bad news at the same time. The bad news is that future economic growth seems to matter little for both earnings growth and equity market returns. The good news is that valuations matter and remain the main driver of future stock market returns. All too often, investors overpay for growth by investing in overvalued stocks with exposure to fast-growing markets. However, the real opportunities lie in stocks and stock markets where investors underestimate future growth opportunities.

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By Michael Annin

Equity and the Small-Stock Effect

The capital asset pricing model shows risk inherent in return on equity. But something goes wrong when it's used for small-sized companies.

Does the size of a company affect the rate of return it should earn? If smaller companies should earn a higher return than larger firms, then small utilities, because of their size, should be allowed to adjust the rates they charge to customers.

By far the most notable and well-documented apparent anomaly in the stock market is the effect of company size on equity returns. The first study focusing on the impact that company size exerts on security returns was performed by Rolf W. Banz. Banz sorted New York Stock Exchange (NYSE) stocks into quintiles based on their market capitalization (price per share times number of shares outstanding), and calculated total returns for a value-weighted portfolio of the stocks in each quintile. His results indicate that returns for companies from the smallest quintile surpassed all other quintiles, as well as the Standard & Poor's 500 and other large stock indices. A number of other researchers have replicated Banz's work in other countries; nevertheless, a consensus has not yet been formed on why small stocks behave as they do.

One explanation for the higher returns is the lack of information on small companies. Investors must search more diligently for data. For small utilities, investors face additional obstacles, such as a smaller customer base, limited financial resources, and a lack of diversification across customers, energy sources, and geography. These obstacles imply a higher investor return.

The Flaw in CAPM

One of the more common cost of equity models used in practice today is the capital asset pricing model (CAPM). The CAPM describes the expected return on any company's stock as proportional to the amount of systematic risk an investor assumes. The traditional CAPM formula can be stated as:

$$R_s = [\beta_s \times RP] + R_f$$

where:

R_s = expected return or cost of equity on the stock of company "s"

β = the *beta* of the stock of company "s"

RP = the expected equity risk premium

R_f = expected return on a riskless asset.

Table 1: The Size Premium in CAPM
(By Decile Portfolio in NYSE, 1926-94)

Decile	*Beta*	Arithmetic Mean Return	Actual Return in Excess of Riskless Rate**	CAPM Return in Excess of Riskless Rate**	Size Premium (Return in Excess CAPM)
1	0.90	11.01%	5.88%	6.33%	−0.44%
2	1.04	13.09	7.97	7.34	0.63
3	1.09	13.83	8.71	7.70	1.01
4	1.13	14.44	9.32	7.98	1.33
5	1.17	15.50	10.38	8.22	2.16
6	1.19	15.45	10.33	8.38	1.95
7	1.24	15.92	10.79	8.75	2.05
8	1.29	16.84	11.72	9.05	2.67
9	1.36	17.83	12.71	9.57	3.14
10	1.47	21.98	16.86	10.33	6.53

**Betas* are estimated from monthly returns in excess of the 20-year government bond income return, January 1926-December 1994.
**Historical riskless rate measured by the 69-year arithmetic mean income return component of 20-year government bonds.
Source: SBBI 1995 Yearbook

Table 2: CAPM vs. CAPM w/ Size Premium

(By Percentile for Electric, Gas, and Sanitary Services Utilities)

	CAPM	CAPM with Size Premium
90th Percentile	16.42%	18.92%
75th Percentile	12.56%	14.72%
Median	10.89%	12.58%
25th Percentile	9.86%	11.39%
10th Percentile	8.63%	10.65%

(Weighted by Market Capitalization)

	CAPM	CAPM with Size Premium
Industry Composite	11.76%	12.33%
Large Company Composite	12.05%	12.07%
Small Company Composite	13.93%	17.95%

Source: Cost of Capital Quarterly '95 Yearbook by Ibbotson Associates
Note: Public utilities include electric, gas, and sanitary services companies.

Table 1 shows *beta* and risk premiums over the past 69 years for each decile of the NYSE. It shows that a hypothetical risk premium calculated under the CAPM fails to match the actual risk premium, shown by actual market returns. The shortfall in the CAPM return rises as company size decreases, suggesting a need to revise the CAPM.

The risk premium component in the actual returns (realized equity risk premium) is the return that compensates investors for taking on risk equal to the risk of the market as a whole (estimated by the 69-year arithmetic mean return on large company stocks, 12.2 percent, less the historical riskless rate). The risk premium in the CAPM returns is *beta* multiplied by the realized equity risk premium.

The smaller deciles show returns not fully explainable by the CAPM. The difference in risk premiums (realized versus CAPM) grows larger as one moves from the largest companies in decile 1 to the smallest in decile 10. The difference is especially pronounced for deciles 9 and 10, which contain the smallest companies.

Based on this analysis, we modify the CAPM formula to include a small-stock premium. The modified CAPM formula can be stated as follows:

$$R_s = [\beta_s \times RP] + R_f + SP$$

where:

SP = small-stock premium.

Because the small-stock premium can be identified by company size, the appropriate premium to add for any particular company will depend on its equity capitalization. For instance, a utility with a market capitalization of $1 billion would require a small capitalization adjustment of approximately 1.3 percent over the traditional CAPM; at $400 million, approximately 2.1 percent, and at only $100 million, approximately 4 percent.

Again, these additions to the traditional CAPM represent an adjustment over and above any increase already provided to these smaller companies by having higher *betas*.

Implications for Smaller Utilities

These findings carry important ramifications for relatively small public utilities. Boosting the traditional CAPM return by a full 400 basis points for small utilities translates into a substantial premium over larger utilities.

Table 2 shows the results of an analysis of 202 utility companies that calculated cost of equity figures. Composites (arithmetic means) weighted by equity capitalization were also calculated for the largest and smallest 20 companies. The results show the impact size has on cost of equity.

For the traditional CAPM, the large-company composite shows a cost of equity of 12.05 percent; the small company composite, 13.93 percent. However, once the respective small capitalization premium is added in, the spread increases dramatically, to 12.07 and 17.95 percent, respectively. Clearly, the smaller the utility (in terms of equity capitalization), the larger the impact that size exerts on the expected return of that security. ▼

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Stocks, Bonds, Bills, and Inflation

SBBI

Valuation Edition
2005 Yearbook

IbbotsonAssociates

Finnerty and Leistikow perform more econometrically sophisticated tests of mean reversion in the equity risk premium. Their tests demonstrate that—as we suspected from our simpler tests—the equity risk premium that was realized over 1926 to the present was almost perfectly free of mean reversion and had no statistically identifiable time trends.[4] Lo and MacKinlay conclude, "the rejection of the random walk for weekly returns does not support a mean-reverting model of asset prices."

Choosing an Appropriate Historical Period

The estimate of the equity risk premium depends on the length of the data series studied. A proper estimate of the equity risk premium requires a data series long enough to give a reliable average without being unduly influenced by very good and very poor short-term returns. When calculated using a long data series, the historical equity risk premium is relatively stable.[5] Furthermore, because an average of the realized equity risk premium is quite volatile when calculated using a short history, using a long series makes it less likely that the analyst can justify any number he or she wants. The magnitude of how shorter periods can affect the result will be explored later in this chapter.

Some analysts estimate the expected equity risk premium using a shorter, more recent time period on the basis that recent events are more likely to be repeated in the near future; furthermore, they believe that the 1920s, 1930s, and 1940s contain too many unusual events. This view is suspect because all periods contain "unusual" events. Some of the most unusual events of this century took place quite recently, including the inflation of the late 1970s and early 1980s, the October 1987 stock market crash, the collapse of the high-yield bond market, the major contraction and consolidation of the thrift industry, the collapse of the Soviet Union, and the development of the European Economic Community—all of these happened approximately in the last 30 years.

It is even difficult for economists to predict the economic environment of the future. For example, if one were analyzing the stock market in 1987 before the crash, it would be statistically improbable to predict the impending short-term volatility without considering the stock market crash and market volatility of the 1929–1931 period.

Without an appreciation of the 1920s and 1930s, no one would believe that such events could happen. The 79-year period starting with 1926 is representative of what can happen: it includes high and low returns, volatile and quiet markets, war and peace, inflation and deflation, and prosperity and depression. Restricting attention to a shorter historical period underestimates the amount of change that could occur in a long future period. Finally, because historical event-types (not specific

4 Though the study performed by Finnerty and Leistikow demonstrates that the traditional equity risk premium exhibits no mean reversion or drift, they conclude that, "the processes generating these risk premiums are generally mean-reverting." This conclusion is completely unrelated to their statistical findings and has received some criticism. In addition to examining the traditional equity risk premia, Finnerty and Leistikow include analyses on "real" risk premia as well as separate risk premia for income and capital gains. In their comments on the study, Ibbotson and Lummer show that these "real" risk premia adjust for inflation twice, "creating variables with no economic content." In addition, separating income and capital gains does not shed light on the behavior of the risk premia as a whole.

5 This assertion is further corroborated by data presented in *Global Investing: The Professional's Guide to the World of Capital Markets* (by Roger G. Ibbotson and Gary P. Brinson and published by McGraw-Hill, New York). Ibbotson and Brinson constructed a stock market total return series back to 1790. Even with some uncertainty about the accuracy of the data before the mid-nineteenth century, the results are remarkable. The real (adjusted for inflation) returns that investors received during the three 50-year periods and one 51-year period between 1790 and 1990 did not differ greatly from one another (that is, in a statistically significant amount). Nor did the real returns differ greatly from the overall 201-year average. This finding implies that because real stock-market returns have been reasonably consistent over time, investors can use these past returns as reasonable bases for forming their expectations of future returns.

NEW REGULATORY FINANCE

Roger A. Morin, PhD

2006
PUBLIC UTILITIES REPORTS, INC.
Vienna, Virginia

Any forward-looking cost of capital calculation already embodies tax effects since investors price securities on the basis of after-tax returns. Besides, a very large proportion of trading is conducted by tax-exempt financial institutions (pension funds, mutual funds, 401K, etc.) for whom tax issues are largely immaterial.

The existence of a negative risk premium is highly unlikely, as it is at serious odds with the basic tenets of finance, economics, and law. Using proper definitions for expected rates of return of equity and debt, the preponderance of the evidence indicates that the negative risk premium does not exist. Several risk premium studies cited in this chapter have found positive risk premiums well in excess of 5% over the last decade. Risk premiums do narrow during unusually turbulent and volatile interest rate environments, but then return to normal levels. They are most unlikely to ever become negative.

4.7 Risk Premium Determinants

Fundamentally, the primary determinant of expected returns is risk. To wit, the various paradigms of financial theory, including the Capital Asset Pricing Model and the Arbitrage Pricing Model covered in subsequent chapters, posit fundamental relationships between return and risk. There are also secondary influences on the relative magnitude of the risk premium, however, including the level of interest rates, default risk, and taxes.

Interest Rates

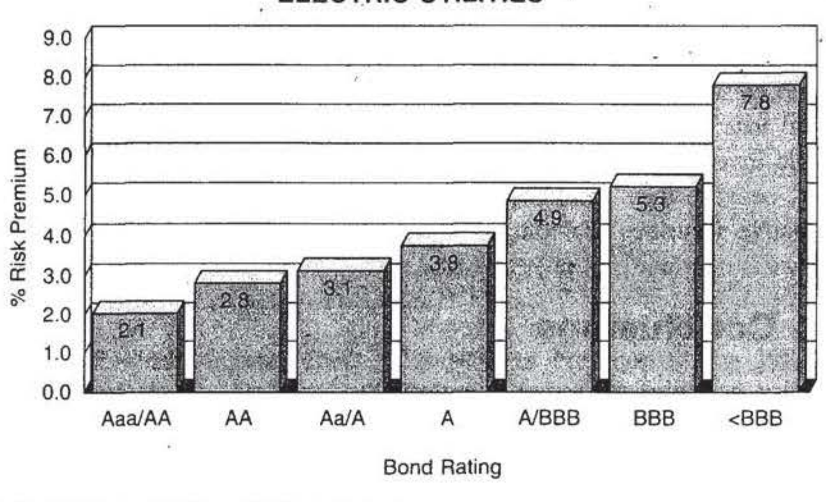
Published studies by Brigham, Shome, and Vinson (1985), Harris (1986), Harris and Marston (1992, 1993), Carleton, Chambers, and Lakonishok (1983), Morin, (2005), and McShane (2005), and others demonstrate that, beginning in 1980, risk premiums varied inversely with the level of interest rates—rising when rates fell and declining when interest rates rose. The reason for this relationship is that when interest rates rise, bondholders suffer a capital loss. This is referred to as interest rate risk. Stockholders, on the other hand, are more concerned with the firm's earning power. So, if bondholders' fear of interest rate risk exceeds shareholders' fear of loss of earning power, the risk differential will narrow and hence the risk premium will shrink. This is particularly true in high inflation environments. Interest rates rise as a result of accelerating inflation, and the interest rate risk of bonds intensifies more than the earnings risk of common stocks, which are partially hedged from the ravages of inflation. This phenomenon has been termed as a ''lock-in'' premium. Conversely in low interest rate environments, when bondholders' interest rate fears subside and shareholders' fears of loss of earning power dominate, the risk differential will widen and hence the risk premium will increase.

Harris (1986) showed that for every 100 basis point change in government bond yields, the equity risk premium for utilities changes 51 basis points in the opposite direction, for a net change in the cost of equity of 49 basis points. For example, a 100 basis point decline in government bond yields would lead to a 51 basis point increase in the equity risk premium and therefore an overall decrease in the cost of equity of 49 basis points, a result almost identical to the estimate reported in Morin (2005). As discussed earlier, similar results were uncovered by McShane (2005), who examined the statistical relationship between DCF-derived risk premiums and interest rates using a sample of natural gas distribution utilities.

The gist of the empirical research on this subject is that the cost of equity has changed only half as much as interest rates have changed in the past. The knowledge that risk premiums vary inversely to the level of interest rates can be used to adjust historical risk premiums to better reflect current market conditions. Thus, when interest rates are unusually high (low), the appropriate current risk premium is somewhat below (above) that long-run average. The empirical research cited above provides guidance as to the magnitude of the adjustment.

Risk premiums also tend to fluctuate with changes in investor risk aversion. Such changes can be tracked by observing the yield spreads between different bond rating categories over time. Brigham, Shome, and Vinson (1985) examined the relationship between risk premium and bond rating and found, unsurprisingly, that the risk premiums are higher for lower rated firms than for higher rated firms. Figure 4-5 shows the results graphically.

FIGURE 4-5
RISK PREMIUMS VS BOND RATINGS
ELECTRIC UTILITIES



Source: Brigham, Shome, and Vinson (1985).

to the DCF method, which may be sluggish in detecting changes in return requirements, especially when based on historical data.

One advantage of risk premium over DCF is that the former is a period-by-period (time-series) study of the cost of equity over the cost of debt, in contrast to the latter which is a point-in-time cross-sectional estimate. In other words, the risk premium approach takes a broader time-series perspective rather than a snapshot point-in-time viewpoint, and is therefore less vulnerable to the vagaries of any one particular capital market environment. A prospective risk premium test relies on a succession of DCF observations over long periods, and is not as vulnerable to a given capital market environment as a spot DCF test.

Of course, the estimation of the appropriate risk premium for either the equity market as a whole or for a specific utility company, is not an exact science. Therefore, it is necessary to evaluate a broad spectrum of data and apply alternative risk premium estimation approaches in order to derive a fair and reasonable estimate of the required equity risk premium. Equal emphasis should be accorded to risk premium results based on history and those based on prospective data. Each proxy for expected risk premium brings information to the judgment process from a different light. Neither proxy is without blemish, each has advantages and shortcomings. Historical risk premiums over long periods are available and verifiable, but may no longer be applicable if structural shifts have occurred. Prospective risk premiums may be more relevant since they encompass both history and current changes, but are nevertheless imperfect proxies and are subject to measurement error and to the vagaries of the DCF input proxies.

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ELECTRIC UTILITY DECISIONS

Date	Company (State)	ROR %	ROE %	Common Eq. as % Cap. Str.	Test Year & Rate Base	Amt. $ Mil.
1/23/15	PacifiCorp (WY)	7.41	9.50	51.43	6/15-A	20.2
2/4/15	Monongahela Power/Potomac Ed. (WV)	--	--	--	12/13	124.3 (B,1)
2/18/15	Virginia Electric and Power (VA)	7.88	11.00	52.03	3/16-A	36.9 (LIR,B,2)
2/24/15	Public Service Co. of Colorado (CO)	7.55	9.83	56.00	12/13-YE	-39.4 (I,B)
3/2/15	Black Hills Power (SD)	7.76	--	--	9/13-A	6.9 (I,B)
3/12/15	Virginia Electric and Power (VA)	8.40	12.00	52.03	3/16-A	-6.4 (LIR,B,3)
3/12/15	Virginia Electric and Power (VA)	7.88	11.00	52.03	3/16-A	11.4 (LIR,B,4)
3/12/15	Virginia Electric and Power (VA)	7.88	11.00	52.03	3/16-A	5.8 (LIR,B,5)
3/18/15	Jersey Central Power & Light (NJ)	8.01	9.75	50.00 (Hy)	12/11-YE	-115.0 (D)
3/25/15	PacifiCorp (WA)	7.30	9.50	49.10 (Hy)	12/13-A	9.6
3/26/15	Northern States Power-Minnesota (MN)	7.37	9.72	52.50	12/14-A	149.4 (R,I,Z)
2015	***1ST QUARTER: AVERAGES/TOTAL***	**7.74**	**10.37**	**51.91**		**203.7**
	OBSERVATIONS	**10**	**9**	**9**		**11**
4/9/15	Metropolitan Edison (PA)	--	--	--	4/16	105.7 (D,B)
4/9/15	Pennsylvania Electric (PA)	--	--	--	4/16	107.8 (D,B)
4/9/15	Pennsylvania Power (PA)	--	--	--	4/16	25.5 (D,B)
4/9/15	West Penn Power (PA)	--	--	--	4/16	95.2 (D,B)
4/14/15	Public Service Oklahoma (OK)	7.63	--	--	7/13-YE	-4.8 (I,B)
4/21/15	Virginia Electric & Power (VA)	7.88	11.00	52.03	8/16-A	60.5 (LIR,Z,B,6)
4/23/15	Wisconsin Public Service (MI)	6.01	10.20	--	12/15	4.0 (Z,B)
4/29/15	Union Electric (MO)	7.60	9.53	51.76	3/14-YE	121.5
5/1/15	Cross Texas Transmission (TX)	6.11	9.60	40.00	9/14-YE	30.9 (B,D,7)
5/26/15	Appalachian Pow./Wheeling Pow. (WV)	7.38	9.75	47.16	12/13-A	123.5
6/15/15	Northern States Power-Minnesota (SD)	7.22	--	--	12/13-A	15.2 (I,B)
6/17/15	Central Hudson Gas & Electric (NY)	6.62	9.00	48.00	6/16-A	15.3 (D,B,8)
6/17/15	Consolidated Edison of New York (NY)	6.91	9.00	48.00	12/16-A	-- (D,B,9)
6/22/15	Kentucky Power (KY)	--	--	--	9/14	-23.0 (B)
6/24/15	Empire District Electric (MO)	--	--	--	4/14	17.1 (B)
6/30/15	Kentucky Utilities (KY)	--	--	--	6/16	125.0 (B)
6/30/15	Louisville Gas & Electric (KY)	--	--	--	6/16	0.0 (B)
2015	***2ND QUARTER: AVERAGES/TOTAL***	**7.04**	**9.73**	**47.83**		**819.4**
	OBSERVATIONS	**9**	**7**	**6**		**16**
7/7/15	Mississippi Power (MS)	--	--	--	--	0.0 (LIR,10)
7/20/15	Entergy Texas (TX)	--	--	--	--	-- (11)
9/2/15	Kansas City Power & Light (MO)	7.53	9.50	50.09	3/14-YE	89.7 (12)
9/10/15	Kansas City Power & Light (KS)	7.44	9.30	50.48	6/14-YE	40.1 (12)
9/23/15	South Carolina Electric & Gas (SC)	8.57	--	52.66	6/15-YE	64.5 (LIR,13)
9/24/15	Westar Energy (KS)	--	--	--	9/14	185.3 (B)
2015	***3RD QUARTER: AVERAGES/TOTAL***	**7.85**	**9.40**	**51.08**		**379.6**
	OBSERVATIONS	**3**	**2**	**3**		**5**

ELECTRIC UTILITY DECISIONS (continued)

Date	Company (State)	ROR %	ROE %	Common Eq. as % Cap. Str.	Test Year & Rate Base	Amt. $ Mil.
10/15/15	Orange & Rockland Utilities (NY)	7.10	9.00	48.00	10/16-A	9.3 (B,D,14)
10/29/15	NorthWestern Corp. (SD)	7.24	--	--	9/14-A	40.7 (I,B)
11/5/15	Southern California Edison (CA)	--	--	--	12/15-A	-450.4 (Z)
11/19/15	Consumers Energy (MI)	6.18	10.30	41.50 *	5/16-A	126.4 (I,Z)
11/19/15	PPL Electric Utilities (PA)	--	--	--	12/16	124.0 (D,B)
11/19/15	Wisconsin Public Service (WI)	8.24	10.00	50.47	12/16-A	-7.9
11/23/15	Virginia Electric and Power (VA)	--	--	--	12/14	0.0 (15)
12/3/15	Mississippi Power (MS)	6.68	9.23	49.73	5/16-A	126.1 (LIR,I,B)
12/3/15	Northern States Power-Wisconsin (WI)	7.81	10.00	52.49	12/16-A	7.6
12/9/15	Ameren Illinois (IL)	7.65	9.14	50.00	12/14-YE	95.1 (D)
12/9/15	Commonwealth Edison (IL)	7.05	9.14	46.25	12/14-YE	-65.5 (D)
12/11/15	DTE Electric (MI)	5.70	10.30	38.03 *	6/16-A	238.2 (I)
12/15/15	Portland General Electric (OR)	7.51	9.60	50.00	12/16-A	70.4 (B,16)
12/17/15	PECO Energy (PA)	--	--	--	12/16	127.0 (D,B)
12/17/15	Southwestern Public Service (TX)	7.88	9.70	51.00 (Hy)	6/14-YE	-4.0
12/18/15	Avista Corp. (ID)	7.42	9.50	50.00	12/14-A	1.7 (B)
12/22/15	Georgia Power (GA)	--	--	--	12/16	19.1 (LIR,17)
12/23/15	PacifiCorp (ID)	--	--	--	--	10.2 (LIR,18)
12/30/15	PacifiCorp (WY)	7.40	9.50	51.44	12/15-A	16.3 (R)
2015	***4TH QUARTER: AVERAGES/TOTAL***	**7.22**	**9.62**	**48.24**		**484.3**
	OBSERVATIONS	**13**	**12**	**12**		**19**
2015	***YEAR-TO-DATE: AVERAGES/TOTAL***	**7.38**	**9.85**	**49.54**		**1,887.0**
	OBSERVATIONS	**35**	**30**	**30**		**51**

GAS UTILITY DECISIONS

Date	Company (State)	ROR %	ROE %	Common Eq. as % Cap. Str.	Test Year & Rate Base	Amt. $ Mil.
1/13/15	Consumers Energy (MI)	--	10.30	--	12/15	45.0 (I,B)
1/14/15	Indiana Gas (IN)	--	--	--	6/14-YE	5.7 (LIR,19)
1/14/15	Southern Indiana Gas & Electric (IN)	--	--	--	6/14-YE	1.5 (LIR,19)
1/21/15	North Shore Gas (IL)	6.26	9.05	50.48	12/15-A	3.5 (R)
1/21/15	Peoples Gas Light & Coke (IL)	6.56	9.05	50.33	12/15-A	71.1 (R)
1/26/15	Piedmont Natural Gas (NC)	--	--	--	10/14	26.6 (LIR,20)
1/27/15	Atmos Energy (KS)	--	--	--	9/14-YE	0.3 (LIR,21)
1/27/15	Northern States Power-Minnesota (MN)	--	--	--	12/15	14.7 (LIR,22)
1/28/15	Northern Indiana Public Service (IN)	--	--	--	6/14-YE	0.3 (LIR,23)
2015	***1ST QUARTER: AVERAGES/TOTAL***	**6.41**	**9.47**	**50.41**		**168.7**
	OBSERVATIONS	**2**	**3**	**2**		**9**
4/7/15	Delta Natural Gas (KY)	--	--	--	12/14-YE	1.3 (LIR,24)
4/9/15	Avista Corporation (OR)	7.52	9.50	51.00	12/15-A	5.3 (B)
5/11/15	Atmos Energy (TN)	7.73	9.80	53.13	5/16-A	0.7 (B)
5/13/15	Missouri Gas Energy (MO)	--	--	--	2/15-YE	2.8 (LIR,25)
5/20/15	Laclede Gas (MO)	--	--	--	2/15-YE	5.5 (LIR,25)
6/17/15	Central Hudson Gas & Electric (NY)	6.62	9.00	48.00	6/16-A	1.8 (B,26)
6/26/15	Liberty Utilities EnergyNorth (NH)	--	--	--	3/14	10.5 (I,B,27)
6/30/15	Louisville Gas & Electric (KY)	--	--	--	6/16	7.0 (B)
2015	***2ND QUARTER: AVERAGES/TOTAL***	**7.29**	**9.43**	**50.71**		**34.9**
	OBSERVATIONS	**3**	**3**	**3**		**8**
7/22/15	Indiana Gas (IN)	--	--	--	12/14-YE	5.5 (LIR,19)
7/22/15	Southern Indiana Gas & Electric (IN)	--	--	--	12/14-YE	3.2 (LIR,19)
7/28/15	Atmos Energy (TX)	--	--	--	12/14-YE	52.6 (I,B,28)
8/21/15	Columbia Gas of Virginia (VA)	7.35	9.75	42.01	12/13	25.2 (I,B)
8/25/15	CenterPoint Energy Resources (TX)	--	--	--	9/14	4.9 (B)
9/16/15	Liberty Utilities (Midstates N.G.) (MO)	--	--	--	5/15	0.3 (LIR,29)
9/23/15	Atmos Energy (KY)	--	--	--	9/16-YE	3.8 (LIR,24)
9/29/15	ENSTAR Natural Gas (AK)	--	--	--	12/14	8.4 (I,B,Z)
2015	***3RD QUARTER: AVERAGES/TOTAL***	**7.35**	**9.75**	**42.01**		**103.9**
	OBSERVATIONS	**1**	**1**	**1**		**8**

GAS UTILITY DECISIONS (continued)

Date	Company (State)	ROR %	ROE %	Common Eq. as % Cap. Str.	Test Year & Rate Base	Amt. $ Mil.
10/7/15	Bay State Gas (MA)	7.75	9.55	53.54	12/14-YE	32.8 (B,30)
10/13/15	Mountaneer Gas (WV)	7.96 (E)	9.75	45.50 (E)	9/14-A	7.7 (B,31)
10/15/15	Orange and Rockland Utilities (NY)	7.10	9.00	48.00	10/16-A	27.5 (B,32)
10/30/15	NSTAR Gas (MA)	7.72	9.80	52.10	12/13-YE	15.8
11/4/15	CenterPoint Energy Resources (OK)	8.64	--	49.86	12/14-YE	0.9 (33)
11/5/15	Kansas Gas Service (KS)	--	--	--	6/15-YE	2.5 (21)
11/19/15	Wisconsin Public Service (WI)	7.80	10.00	50.47	12/16-A	-6.2
12/1/15	Piedmont Natural Gas (NC)	--	--	--	9/15	16.5 (LIR,20)
12/3/15	Columbia Gas of Pennsylvania (PA)	--	--	--	12/16	28.0 (B)
12/3/15	Northern States Power-Wisconsin (WI)	7.81	10.00	52.49	12/16-A	4.2
12/9/15	Ameren Illinois (IL)	7.65 (B)	9.60 (B)	50.00 (B)	12/16-A	44.5
12/11/15	Michigan Gas Utilities (MI)	5.51	9.90	52.00	12/16	3.4 (B)
12/18/15	Avista Corp. (ID)	7.42	9.50	50.00	12/14-A	2.5 (B)
2015	***4TH QUARTER: AVERAGES/TOTAL***	**7.54**	**9.68**	**50.40**		**180.1**
	OBSERVATIONS	**10**	**9**	**10**		**13**
2015	***YEAR-TO-DATE: AVERAGES/TOTAL***	**7.34**	**9.60**	**49.93**		**487.6**
	OBSERVATIONS	**16**	**16**	**16**		**38**

FOOTNOTES

A- Average
B- Order followed stipulation or settlement by the parties. Decision particulars not necessarily precedent-setting or specifically adopted by the regulatory body.
COC- Case involved only the determination of cost-of-capital parameters.
CWIP- Construction work in progress
D- Applies to electric delivery only
DCt Date certain rate base valuation
E- Estimated
F- Return on fair value rate base
Hy- Hypothetical capital structure utilized
I- Interim rates implemented prior to the issuance of final order, normally under bond and subject to refund.
LIR Limited-issue rider proceeding
M- "Make-whole" rate change based on return on equity or overall return authorized in previous case.
R- Revised
Te- Temporary rates implemented prior to the issuance of final order.
U- Double leverage capital structure utilized.
W- Case withdrawn
YE- Year-end
Z- Rate change implemented in multiple steps.
* Capital structure includes cost-free items or tax credit balances at the overall rate of return.

(1) Consolidated rate proceeding for Monongahela Power and Potomac Edison, whose rate schedules were combined.
(2) Increase authorized through a surcharge, Rider W, which reflects in rates the investment in the Warren County Power Station.
(3) This proceeding determines the revenue requirement for Rider B, which is the mechanism through which the company recovers costs associated with its plan to convert the Altavista, Hopewell, and Southampton Power Stations to burn biomass fuels.
(4) Represents rate increase associated with the company's Rider R proceeding, which is the mechanism through which the company recovers the investment in the Bear Garden generating facility.
(5) This proceeding determines the revenue requirement for Rider S, which recognizes in rates the company's investment in the Virginia City Hybrid Energy Center.

FOOTNOTES (continued)

(6) This proceeding determines the revenue requirement for Rider BW, which recognizes in rates the company's investment in the Brunswick Generating Station. A $10.1 million increase became effective Sept. 1, 2015, and an incremental $50.5 million is to be implemented May 1, 2016.

(7) Indicated rate increase is for base rates and reflects the transfer to base rates of $30.1 million that was being collected through the company's interim transmission cost of service adjustment mechanism. The net overall rate increase is $0.8 million.

(8) The approved final Joint Proposal provides for the company to implement a $15.3 million electric rate increase, effective July 1, 2015, based on a 9% return on equity (48% of capital) and a 6.62% overall return, a $16 million increase on July 1, 2016, based on the same return parameters, and a $14.1 million increase on July 1, 2017, that reflects a 9% return on equity (48% of capital) and a 6.58% overall return.

(9) Joint Proposal adopted that extends the company's existing rate plan by one year through 12/31/16. Rates were not changed.

(10) On 7/7/15, the PSC issued an order on remand directing the company to cease collecting CWIP-related rate increases effective 7/20/15, and to submit a refund plan. This PSC action is the result of a 2/12/15 Mississippi Supreme Court decision that reversed and remanded the PSC's 3/5/13 decision in the proceeding that had authorized the company a two-step $156 million rate increase related to the Kemper generation plant.

(11) Case dismissed at company request.

(12) Approved settlements did not address rate-of-return issues.

(13) Case involves company's request for a cash return on incremental V.C. Summer Units 2 and 3 CWIP and incorporates the 11% ROE that was initially authorized in 2009 for use in Summer CWIP-related proceedings.

(14) The approved Joint settlement provides for a $9.3 million electric rate increase on 11/1/15, and an $8.8 million increase on 11/1/16. The approved rate changes incorporate a 9% return on equity (48% of capital) and overall returns of 7.1% (in rate year one) and 7.06% (in rate year two).

(15) Proceeding reviewed earnings levels for the 2013-2014 biennium versus the 10% ROE authorized in the previous review. By law, no prospective rate change was permissible in this case. The Commission calculated the company had earned a 10.89% ROE, and ordered $19.7 million of refunds.

(16) A $14.7 million base rate reduction became effective 1/1/16. An $85.1 million base rate increase is to be implemented in mid-2016, provided the Carty generation station achieves commercial operation by 7/31/16.

(17) Case represents recovery of a cash return on 2016 CWIP and a preliminary true-up of the cash return on 2015 CWIP for Plant Vogtle Units 3 and 4 under the company's legislatively-enabled nuclear construction cost recovery tariff.

(18) Limited-issue proceeding to reflect updated net power costs.

(19) Proceeding to establish the rates to be charged to customers under the company's "compliance and system improvement adjustment" mechanism.

(20) Case involves the company's Integrity Management Rider.

(21) Case involves the company's gas system reliability surcharge rider.

(22) Case represents the company's first filing under its Gas Utility Infrastructure Cost Rider.

(23) This is the initial proceeding to establish the rates to be charged to customers under the company's transmission, distribution, and storage system improvement charge rate adjustment mechanism.

(24) Case represents an annual update to the company's pipe replacement program rider.

(25) Case represents an update to the company's semi-annual infrastructure system replacement surcharge rider.

(26) The approved final Joint Proposal provides for the company to implement a $1.8 million gas rate increase, effective July 1, 2015, based on a 9% return on equity (48% of capital) and a 6.62% overall return, a $4.6 million increase on July 1, 2016, based on the same return parameters, and a $4.4 million increase on July 1, 2017, that reflects a 9% return on equity (48% of capital) and a 6.58% overall return.

(27) Indicated $10.5 million rate increase excludes a $1.9 million "step" increase for capital additions that was effective July 1, 2015.

(28) Rate change ratified by cities in Atmos' Mid-Tex Division.

(29) Case represents annual update to company's infrastructure system replacement surcharge rider.

(30) Two step rate increase authorized. A $32.8 million first-step increase was implemented on 11/1/15, and an incremental second–step incremental increase of up to $3.6 million to become effective on 11/1/16.

(31) Settlement did not specify the equity ratio or ROR; in a demonstration filing, the PSC Staff calculated a 45.5% equity ratio and 7.96% ROR.

(32) The approved settlement provides for a three-year gas rate plan under which gas rates are to increase $27.5 million effective 11/1/15, $4.4 million effective Nov. 1, 2016, and $6.7 million effective Nov. 1, 2017. The approved rate changes incorporate a 9% return on equity (48% of capital) and overall returns of 7.1% (in rate year one) and 7.06% (in rate years two and three).

(33) Case involves the company's performance based ratemaking mechanism.

Dennis Sperduto

Electric Utility Decisions

Date	Company	State	ROR %	ROE %	Common Equity as % of Capital	Test Year	Rate Base	Amt. $ Mil.	Footnotes
1/5/16	MDU Resources Group	ND	7.95	10.50	50.27	12/16	—	15.1	(B,LIR,1)
1/6/16	Avista Corporation	WA	7.29	9.50	48.50	9/14	—	-8.1	(B)
1/28/16	Northern India-- Public Service Co.	IN	—	—	—	—	—	0.0	(LIR,2)
2/2/16	Kentucky Utilities Company	VA	—	—	—	12/14	—	5.5	(B)
2/23/16	Entergy Arkansas	AR	4.52	9.75	28.46	3/15	—	219.7	(B,*)
2/29/16	Virginia Electric and Power Company	VA	7.90	11.60	49.99	3/17	Average	21.0	(LIR,3)
2/29/16	Virginia Electric and Power Company	VA	7.40	10.60	49.99	3/17	Average	-9.3	(LIR,4)
2/29/16	Virginia Electric and Power Company	VA	7.40	10.60	49.99	3/17	Average	6.6	(LIR,5)
2/29/16	Virginia Electric and Power Company	VA	7.40	10.60	49.99	3/17	Average	-16.8	(LIR,6)
3/16/16	Indianapolis Power & Light Company	IN	6.51	9.85	37.33	6/14	Year-end	29.6	(*)
3/25/16	MDU Resources Group	MT	—	—	—	12/14	—	7.4	(B,Z)
3/29/16	Virginia Electric and Power Company	VA	6.90	9.60	49.99	3/17	Average	40.4	(LIR,7)
2016	**1ST QUARTER: AVERAGES/TOTAL**		**7.03**	**10.29**	**46.06**			**311.2**	
	OBSERVATIONS		**9**	**9**	**9**			**12**	
4/29/16	Fitchburg Gas and Electric Light Co.	MA	8.46	9.80	52.17	12/14	Year-end	2.1	(D)
6/3/16	Baltimore Gas and Electric Company	MD	7.28	9.75	51.90	11/15	Average	44.1	(D,R)
6/8/16	El Paso Electric Company	NM	7.67	9.48	49.29	12/14	Year-end	1.1	
6/15/16	New York State Electric & Gas Corp.	NY	6.68	9.00	48.00	4/17	Average	29.6	(B,D,Z,8)
6/15/16	Rochester Gas and Electric Corp.	NY	7.55	9.00	48.00	4/17	Average	3.0	(B,D,Z,8)
6/23/16	San Diego Gas & Electric Co.	CA	—	—	—	12/16	Average	3.0	(B,Z,9)
6/30/16	Appalachian Power Company	WV	—	—	—	—	—	55.1	(B,LIR,10)
6/30/16	Virginia Electric and Power Company	VA	7.40	10.60	49.99	8/17	Average	-25.7	(LIR,11)
6/30/16	Virginia Electric and Power Company	VA	6.90	9.60	49.99	8/17	Average	5.4	(LIR,12)
2016	**2ND QUARTER: AVERAGES/TOTAL**		**7.42**	**9.60**	**49.91**			**117.7**	
	OBSERVATIONS		**7**	**7**	**7**			**9**	
7/18/16	Northern Indiana Public Service Co.	IN	6.74	9.98	47.42	3/15	Year-end	72.5	(B,*)
8/9/16	Kingsport Power Company	TN	6.18	9.85	40.25	12/17	Average	8.6	(B)
8/10/16	Southwestern Public Service Co.	NM	—	—	—	—	—	23.5	(B)
8/10/16	Empire District Electric Company	MO	—	—	—	6/15	—	20.4	(B)
8/18/16	El Paso Electric Company	TX	—	—	—	3/15	—	40.7	(I,B)
8/18/16	UNS Electric, Inc.	AZ	7.22	9.50	52.83	12/14	Year-end	15.1	
8/22/16	Virginia Electric and Power Company	VA	—	—	—	8/17	—	21.3	(LIR, B,13)
8/24/16	Atlantic City Electric Company	NJ	7.64	9.75	49.48	12/15	Year-end	45.0	(D,B)

Electric Utility Decisions (continued)

Date	Company	State	ROR %	ROE %	Common Equity as % of Capital	Test Year	Rate Base	Amt. $ Mil.	Footnotes
9/1/16	PacifiCorp	WA	7.30	9.50	49.10	6/15	Year-end	13.7	(Z)
9/8/16	Upper Peninsula Power Company	MI	7.47	10.00	53.49	12/16	Average	4.6	(I,*)
9/28/16	Public Service Co. of New Mexico	NM	7.71	9.58	49.61	9/16	Average	61.2	
9/28/16	KCP&L Greater Missouri Operations	MO	—	—	—	—	—	3.0	(B)
9/30/16	Massachusetts Electric Company	MA	7.58	9.90	50.70	6/15	Year-end	169.7	(D)
2016	3RD QUARTER: AVERAGES/TOTAL		7.23	9.76	49.11			499.3	
	OBSERVATIONS		8	8	8			13	
10/6/16	Appalachian Power Company	VA	—	9.40	—	—	—	—	(LIR)
10/19/16	South Carolina Electric & Gas Co.	SC	8.24	—	51.35	6/16	Year-end	64.4	(LIR, 14)
10/26/16	Northern States Power Company - WI	WI	—	—	—	12/17	—	24.5	(15)
11/9/16	Madison Gas and Electric Company	WI	7.89	9.80	57.16	12/17	Average	-3.3	
11/10/16	Public Service Company of Oklahoma	OK	6.94	9.50	44.00	1/15	Year-end	14.5	
11/15/16	Potomac Electric Power Company	MD	7.49	9.55	49.55	12/15	Average	52.5	(D)
11/18/16	Wisconsin Power and Light Company	WI	7.91	10.00	52.20	12/18	Average	9.4	(B,Z)
11/29/16	Florida Power & Light Company	FL	—	10.55	—	12/18	—	811.0	(B,Z)
12/1/16	Liberty Utilities (CalPeco Electric) LLC	CA	7.51	10.00	52.50	12/16	Average	8.3	(B)
12/6/16	Commonwealth Edison Company	IL	6.71	8.64	45.62	12/15	Year-end	130.9	(D)
12/6/16	Ameren Illinois Company	IL	7.28	8.64	50.00	12/15	Year-end	-8.8	(D)
12/6/16	Entergy Arkansas, Inc.	AR	—	—	—	12/17	—	54.4	(B)
12/7/16	Duke Energy Progress, LLC	SC	7.21	10.10	53.00	12/15	Year-end	56.2	(B,Z)
12/9/16	Monongahela Power Company	WV	—	—	—	6/16	—	25.0	(B,LIR,16)
12/12/16	Jersey Central Power & Light Co.	NJ	7.47	9.60	45.00	6/16	Year-end	80.0	(B,D)
12/14/16	United Illuminating Company	CT	7.08	9.10	50.00	12/15	Average	57.4	(D,Z)
12/15/16	Avista Corporation	WA	—	—	—	—	—	0.0	(17)
12/19/16	Black Hills Colorado Electric Utility Co.	CO	7.43	9.37	52.39	12/15	Average	0.6	
12/19/16	Emera Maine	ME	7.45	9.00	49.00	12/14	Average	3.0	(D,Hy)
12/20/16	Georgia Power Company	GA	—	—	—	12/17	—	—	(LIR,W,18)
12/22/16	Sierra Pacific Power Company	NV	6.65	9.60	48.03	12/15	—	-2.9	(B)
12/22/16	Virginia Electric and Power Company	NC	7.37	9.90	51.75	12/15	Year-end	34.7	(B,I)
12/23/16	Hawaiian Electric Company, Inc.	HI	—	—	—	—	—	0.0	(19)
12/28/16	Avista Corporation	ID	7.58	9.50	50.00	12/15	Average	6.3	(B)
12/30/16	Appalachian Power Company	VA	7.30	10.00	47.22	12/17	Average	3.3	(B,LIR,20)
2016	4TH QUARTER: AVERAGES/TOTAL		7.38	9.57	49.93			1,421.4	
	OBSERVATIONS		17	18	17			23	
2016	FULL YEAR: AVERAGES/TOTAL		7.28	9.77	48.91			2,349.6	
	OBSERVATIONS		41	42	41			57	

Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

Gas Utility Decisions

Date	Company	State	ROR %	ROE %	Common Equity as % of Capital	Test Year	Rate Base	Amt. $ Mil.	Footnotes
1/6/16	Oklahoma Natural Gas Company	OK	7.31	9.50	60.50	3/15	Year-end	30.0	(B)
1/6/16	Avista Corporation	WA	7.29	9.50	48.50	09/14	—	10.8	(B)
1/28/16	SourceGas Arkansas	AR	5.33	9.40	39.46	3/15	Year-end	8.0	(B,*)
2/10/16	Liberty Utilities (New England Nat. Gas)	MA	7.99	9.60	50.00	12/14	Year-end	7.8	(B)
2/16/16	Public Service Company of Colorado	CO	7.33	9.50	56.51	12/14	Average	39.2	(I,Z,R)
2/25/16	Black Hills Kansas Gas Utility Company	KS	—	—	—	10/15	Year-end	0.8	(LIR,21)
2/29/16	Avista Corporation	OR	7.46	9.40	50.00	12/16	Average	4.5	
3/17/16	Atmos Energy Corporation	KS	—	—	—	3/15	—	2.2	(B)
3/30/16	Indiana Gas Company, Inc.	IN	—	—	—	6/15	Year-end	7.0	(LIR,22)
3/30/16	Northern Indiana Public Service Co.	IN	—	—	—	6/15	Year-end	7.6	(LIR,23)
3/30/16	Southern Indiana Gas and Electric Co.	IN	—	—	—	6/15	Year-end	2.3	(LIR,22)
2016	1ST QUARTER: AVERAGES/TOTAL		7.12	9.48	50.83			120.2	
	OBSERVATIONS		6	6	6			11	
4/21/16	Consumers Energy Company	MI	—	—	—	12/16	—	40.0	(I,B)
4/29/16	Fitchburg Gas and Electric Light Company	MA	8.46	9.80	52.17	12/14	Year-end	1.6	
5/5/16	CenterPoint Energy Resources Corp.	MN	7.07	9.49	50.00	9/16	Average	27.5	(I)
5/11/16	Liberty Utilities (Midstates Nat. Gas)	MO	—	—	—	1/16	—	0.2	(LIR,24)
5/19/16	Delta Natural Gas Company	KY	—	—	—	12/15	Year-end	1.4	(LIR)
5/19/16	Laclede Gas Company	MO	—	—	—	2/16	Year-end	5.4	(LIR,25)
5/19/16	Missouri Gas Energy	MO	—	—	—	2/16	Year-end	3.6	(LIR,25)
6/1/16	Maine Natural Gas	ME	7.28	9.55	50.00	9/14	Average	2.5	(B,Z)
6/3/16	Baltimore Gas and Electric Company	MD	7.23	9.65	51.90	11/15	Average	47.9	(R)
6/15/16	New York State Electric & Gas Corporation	NY	6.68	9.00	48.00	4/17	Average	13.1	(B,Z,7)
6/15/16	Rochester Gas and Electric Corp.	NY	7.55	9.00	48.00	4/17	Average	8.8	(B,Z,7)
6/22/16	Northern Indiana Public Service Co.	IN	—	—	—	12/15	Year-end	6.7	(LIR,E,26)
6/23/16	San Diego Gas & Electric Co.	CA	—	—	—	12/16	Average	-1.6	(B,Z,27)
6/23/16	Southern California Gas Company	CA	—	—	—	12/16	Average	106.9	(B,Z,9)
6/29/16	Indiana Gas Company, Inc.	IN	—	—	—	12/15	Year-end	10.2	(LIR,28)
6/29/16	Southern Indiana Gas and Electric Co.	IN	—	—	—	12/15	Year-end	2.1	(LIR,28)
2016	2ND QUARTER: AVERAGES/TOTAL		7.38	9.42	50.01			276.3	
	OBSERVATIONS		6	6	6			16	

Gas Utility Decisions (continued)

Date	Company	State	ROR %	ROE %	Common Equity as % of Capital	Test Year	Rate Base	Amt. $ Mil.	Footnotes
7/7/16	Cascade Natural Gas Corporation	WA	7.35	—	—	—	—	4.0	(B)
7/19/16	CenterPoint Energy Resources Corp.	OK	—	—	—	12/15	—	0.0	(B,29)
8/4/16	Atmos Energy Corporation	KY	—	—	—	5/17	—	0.5	(B)
8/22/16	Questar Gas Company	UT	—	—	—	—	—	—	(30)
9/1/16	UGI Utilities, Inc.	PA	—	—	—	9/17	—	27.0	(B)
9/2/16	CenterPoint Energy Resources Corp.	AR	4.53	9.50	30.85	9/15	Year-end	14.2	(B,*)
9/23/16	New Jersey Natural Gas Company	NJ	6.90	9.75	52.50	6/16	Year-end	45.0	(B)
9/27/16	Texas Gas Service Company	TX	7.28	9.50	60.10	9/15	Year-end	8.8	
9/29/16	Minnesota Energy Resources Corp.	MN	6.88	9.11	50.32	12/16	Average	6.8	(I,E)
2016	3RD QUARTER: AVERAGES/TOTAL		6.59	9.47	48.44			106.3	
	OBSERVATIONS		5	4	4			8	
10/26/16	Northern States Power Company - WI	WI	—	—	—	12/17	—	4.8	(15)
10/27/16	Columbia Gas of Maryland, Inc.	MD	—	—	—	4/16	—	3.7	(B)
10/27/16	Columbia Gas of Pennsylvania, Inc.	PA	—	—	—	12/17	—	35.0	(B)
10/28/16	Public Service Co. of North Carolina	NC	7.53	9.70	52.00	12/15	Year-end	19.1	(B)
11/9/16	Madison Gas and Electric Company	WI	—	9.80	—	12/17	—	3.1	
11/14/16	Atmos Energy Corporation	KY	—	—	—	9/17	Year-end	5.0	(LIR,31)
11/15/16	Texas Gas Service Company	TX	—	—	—	12/15	—	6.8	(B)
11/18/16	Wisconsin Power and Light Company	WI	7.84	10.00	52.20	12/18	Average	9.4	(B,Z)
11/23/16	Baltimore Gas and Electric Company	MD	—	—	—	12/18	Average	6.1	(B,Z,LIR,32)
11/29/16	Kansas Gas Service Company	KS	—	—	—	—	—	15.5	(B)
12/1/16	Pacific Gas and Electric Company	CA	—	—	—	12/15	Average	100.0	(Tr,I, 33)
12/9/16	DTE Gas Company	MI	5.76	10.10	38.65	10/17	Average	122.3	(I,*)
12/14/16	Columbia Gas of Maryland, Inc.	MD	7.53	9.70	54.29	12/17	Average	1.2	(LIR,32)
12/15/16	KeySpan Gas East Corporation	NY	6.42	9.00	48.00	12/17	Average	112.0	(B,34)
12/15/16	Brooklyn Union Gas Company	NY	6.15	9.00	48.00	12/17	Average	272.1	(B,35)
12/15/16	Avista Corporation	WA	—	—	—	—	—	0.0	(17)
12/20/16	Columbia Gas of Virginia, Inc.	VA	—	—	—	12/17	Average	1.3	(LIR,36)
12/22/16	Columbia Gas of Kentucky, Inc.	KY	—	—	—	—	—	18.1	(B)
12/22/16	Sierra Pacific Power Company	NV	5.75	9.50	48.03	12/15	—	-2.4	(B)
2016	4TH QUARTER: AVERAGES/TOTAL		6.71	9.60	48.74			733.1	
	OBSERVATIONS		7	8	7			19	
2016	FULL YEAR: AVERAGES/TOTAL		6.95	9.50	49.56			1,235.9	
	OBSERVATIONS		24	24	23			54	

Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

FOOTNOTES

A- Average
B- Order followed stipulation or settlement by the parties. Decision particulars not necessarily precedent-setting or specifically adopted by the regulatory body.
CWIP- Construction work in progress
D- Applies to electric delivery only
DCt Date certain rate base valuation
E- Estimated
F- Return on fair value rate base
Hy- Hypothetical capital structure utilized
I- Interim rates implemented prior to the issuance of final order, normally under bond and subject to refund.
LIR Limited-issue rider proceeding
M- "Make-whole" rate change based on return on equity or overall return authorized in previous case.
R- Revised
Te- Temporary rates implemented prior to the issuance of final order.
Tr- Applies to transmission service
U- Double leverage capital structure utilized.
W- Case withdrawn
YE- Year-end
Z- Rate change implemented in multiple steps.
* Capital structure includes cost-free items or tax credit balances at the overall rate of return.

(1) Rate increase approved in renewable resource cost recovery rider.
(2) Case represents the company's transmission, distribution, and storage system improvement charge, or TDSIC rate adjutment mechanism. The case was dismissed by the Commission, with no rate change authorized.
(3) Proceeding determines the revenue requirement for Rider B, which is the mechanism through which the company recovers costs associated with its plan to convert the Altavista, Hopewell, and Southampton Power Stations to burn biomass fuels.
(4) Represents rate decrease associated with the company's Rider R proceeding, which is the mechanism through which the company recovers the investment in the Bear Garden generating facility.
(5) This proceeding determines the revenue requirement for Rider S, which recognizes in rates the company's investment in the Virginia City Hybrid Energy Center.
(6) Decrease authorized through a surcharge, Rider W, which reflects in rates investment in the Warren County Power Station.
(7) Proceeding involves a new gas-fired generation facility, the Greensville County project, and creation of a new rider mechanism, Rider GV, to reflect the related revenue requirement in rates.
(8) Rate increase effective 5/1/16; additional increases to be effective 5/1/17 and 5/1/18.
(9) Settlement adopted with modifications. Rate increase effective retroactive to 1/1/16; additional increases to be effective 1/1/17 and 1/1/18.
(10) Represents the company's joint expanded net energy cost, or ENEC, proceeding.
(11) Represents rate decrease associated with the company's Rider BW proceeding, which is the mechanism through which the company recovers the investment in its Brunswick County Power Station.
(12) Represents the rate increase associated with the company's Rider US-2, which is the mechanism through which the company recovers the revenue requirement associated with three new solar generation facilities.
(13) Case involves the company's request to establish Rider U for recovery of investment and costs associated with a project to underground certain distribution lines.
(14) The present case involves South Carolina Electric & Gas' request for a cash return on incremental V.C. Summer Units 2 and 3 construction work in progress (CWIP) and incorporates the 10.5% return on equity that was authorized in September 2015 for use in the Summer CWIP-related proceedings beginning in 2016.
(15) The rate case is for the limited purpose of recovering anticipated increases in: generation and transmission fixed charges and fuel and purchased power expenses related to the interchange agreement with affiliate NSP-Minnesota; and, rate base investment.

FOOTNOTES (continued)

(16) Case is a consolidated expanded net energy cost proceeding for Monongahela Power and affiliate Potomac Edison.
(17) Rate increase rejected by commission.
(18) As a result of the commission's adoption of a settlement in another proceeding, the company withrew its rate increase request in this proceeding, and no rate change was implemented.
(19) No change in base rates was sought by the company, and on 12/23/16, the commission issued an order closing this docket.
(20) Case involves the company's G-RAC rider mechanism that addresses its investment in the Dresden Generating Plant, and establishes the revenue requirement for the rider to become effective 1/1/17.
(21) Case involves the company's gas system reliabillity surcharge, or GSRS, rider and reflects investments made from July 1, 2014 through Oct. 31, 2015.
(22) Case involves company's "compliance and system improvement adjustment" mechanism, and includes compliance-related investments made between Jan. 1 and June 30, 2015, and certain other investments made between July 1, 2014 and June 30, 2015.
(23) Case establishes the rates to be charged to customers under the company's transmission, distribution and storage system improvement charge rate adjustment mechanism, and reflects investments made between July 1, 2014 and June 30, 2015.
(24) Case involves the company's infrastructure system replacement surcharge rider and reflects incremental investments made from 6/1/15 through 1/31/16.
(25) Case involves the company's infrastructure system replacement surcharge rider and reflects incremental investments made from 9/1/15 through 2/29/16.
(26) Case establishes the rates to be charged to customers under the company's transmission, distribution and storage system improvement charge rate adjustment mechanism, and reflects investments made between 7/1/15 and 12/31/15.
(27) Settlement adopted with modifications. Rate decrease effective retroactive to 1/1/16; rate increases to be effective 1/1/17 and 1/1/18.
(28) Case involves company's "compliance and system improvement adjustment" mechanism, and includes compliance-related investments made between 7/1/15 and 12/31/15.
(29) Case involves the company's performance based ratemaking plan.
(30) On 8/22/16, the PSC approved the company's petition to withdraw the rate increase request, effectively closing the case. The request to withdraw the filing comported with provisions of a settlement filed in the Questar/Dominion Resources merger proceeding.
(31) Case is an annual update to the company's pipe replacement program rider.
(32) Case involves the company's strategic infrastrucure development and enhancement, or STRIDE, rider.
(33) Case involves the company's gas transmission and storage operations. The decision also authorized attrition rate increases of $246 million for 2016, $64 million for 2017 and $105 million for 2018.
(34) Adopted joint proposal provides for the company to implement a $112 million rate increase effective 1/1/17, a $19.6 million rate increase effective 1/1/18, and a $27 million rate increase effective 1/1/19.
(35) Adopted joint proposal provides for the company to implement a $272.1 million rate increase effective 1/1/17, a $41 million rate increase effective 1/1/18, and a $48.9 million rate increase effective 1/1/19.
(36) Case involves the company's investments under the Steps to Advance Virginia's Energy Plan.

Dennis Sperduto

Value Line Forecast for the U.S. Economy

	Actual						Estimated			
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Gross Domestic Product and its Components (2009 Chain Weighted $) Billions of Dollars										
Final Sales	15292	15521	15882	16263	16587	16997	17454	17890	18301	18704
Total Consumption	10413	10565	10869	11215	11516	11842	12234	12613	12967	13291
Nonresidential Fixed Investment	1964	2033	2156	2201	2192	2289	2421	2554	2682	2776
Structures	423	428	474	452	438	460	467	479	493	509
Equipment & Software	939	982	1036	1073	1042	1073	1139	1195	1237	1274
Residential Fixed Investment	437	488	505	564	592	616	641	664	684	703
Exports	1963	2032	2118	2120	2129	2171	2228	2306	2387	2459
Imports	2410	2436	2544	2661	2691	2798	2951	3084	3208	3320
Federal Government	1214	1143	1114	1113	1120	1119	1108	1097	1091	1086
State & Local Governments	1728	1714	1718	1768	1786	1805	1835	1863	1881	1900
Gross Domestic Product	16155	16692	17393	18037	18567	19409	20402	21372	22366	23315
Real GDP (2009 Chain Weighted $)	15355	15612	15982	16397	16658	17054	17544	18018	18468	18874
Prices and Wages — Annual Rates of Change										
GDP Deflator	1.8	1.6	1.8	1.1	1.6	2.2	2.1	2.0	2.1	2.0
CPI-All Urban Consumers	2.1	1.5	1.6	0.4	1.8	2.6	2.3	2.4	2.7	2.7
PPI-Finished Goods	1.9	1.2	1.9	-3.2	0.6	2.9	1.7	2.0	2.3	2.5
Employment Cost Index—Total Comp.	1.9	1.9	2.1	1.9	2.2	2.7	3.2	3.3	3.4	3.3
Productivity	0.9	0.0	0.7	0.5	1.0	1.1	1.5	1.6	1.5	1.3
Production and Other Key Measures										
Industrial Prod. (% Change, Annualized)	2.8	1.9	3.7	-1.6	-0.3	2.2	3.0	2.5	2.3	2.0
Factory Operating Rate (%)	74.5	74.1	75.3	75.5	75.0	75.0	76.0	75.0	74.5	74.0
Nonfarm Inven. Change (2009 Chain Weighted $)	72.7	54.3	65.0	88.1	25.0	16.3	45.0	50.0	45.0	40.0
Housing Starts (Mill. Units)	0.78	0.93	1.00	1.11	1.17	1.24	1.32	1.40	1.43	1.40
Existing House Sales (Mill. Units)	4.66	5.07	4.92	5.23	5.44	5.49	5.51	5.48	5.45	5.43
Total Light Vehicle Sales (Mill. Units)	14.4	15.5	16.4	17.4	17.5	17.4	17.6	17.6	17.4	17.2
National Unemployment Rate (%)	8.1	7.4	6.2	5.3	4.9	4.6	4.3	4.2	4.3	4.3
Federal Budget Surplus (Unified, FY, $Bill)	-1089	-680	-483	-479	-579	-525	-675	-750	-800	-850
Price of Oil ($Bbl., U.S. Refiners' Cost)	101.00	100.47	92.23	48.41	40.63	50.00	52.00	54.00	57.00	60.00
Money and Interest Rates										
3-Month Treasury Bill Rate (%)	0.1	0.1	0.1	0.1	0.3	0.9	1.7	2.5	2.7	2.9
Federal Funds Rate (%)	0.1	0.1	0.1	0.1	0.4	1.0	1.8	2.5	2.8	3.0
10-Year Treasury Note Rate (%)	1.8	2.4	2.5	2.2	1.9	2.7	2.9	3.5	3.8	4.0
Long-Term Treasury Bond Rate (%)	2.9	3.5	3.3	2.9	2.6	3.2	3.3	3.7	4.0	3.8
AAA Corporate Bond Rate (%)	3.7	4.2	4.2	3.9	3.7	4.1	4.4	4.0	4.2	4.0
Prime Rate (%)	3.3	3.3	3.3	3.3	3.5	4.4	5.1	5.5	6.0	6.0
Incomes										
Personal Income (Annualized % Change)	5.0	1.1	4.4	3.9	3.6	4.6	4.9	5.0	4.8	4.7
Real Disp. Inc. (Annualized % Change)	3.1	-1.4	2.7	3.1	2.3	2.9	3.4	3.0	2.8	2.7
Personal Savings Rate (%)	7.6	4.8	4.8	5.8	5.9	5.7	6.3	6.5	6.8	7.0
After-Tax Profits (Annualized $Bill)	1683	1693	1694	1588	1665	1841	2044	2146	2232	2299
Yr-to-Yr % Change	17.9	0.6	0.1	-6.3	4.8	10.6	11.0	5.0	4.0	3.0
Composition of Real GDP-Annual Rates of Change										
Gross Domestic Product	2.2	1.7	2.4	2.6	1.6	2.4	2.9	2.7	2.5	2.2
Final Sales	2.1	1.5	2.3	2.4	2.0	2.5	2.7	2.5	2.3	2.2
Total Consumption	1.5	1.5	2.9	3.2	2.7	2.8	3.3	3.1	2.8	2.5
Nonresidential Fixed Investment	9.0	3.5	6.0	2.1	-0.4	4.4	5.8	5.5	5.0	3.5
Structures	12.9	1.2	10.6	-4.5	-3.1	4.9	1.5	2.5	3.0	3.3
Equipment & Software	10.8	4.6	5.4	3.6	-2.8	2.9	6.1	5.0	3.5	3.0
Residential Fixed Investment	13.5	11.7	3.5	11.7	4.9	4.1	4.2	3.5	3.0	2.8
Exports	3.4	3.5	4.2	0.1	0.4	2.0	2.7	3.5	3.5	3.0
Imports	2.2	1.1	4.4	4.6	1.2	4.0	5.5	4.5	4.0	3.5
Federal Government	-1.9	-5.8	-2.5	0.0	0.6	-0.1	-1.0	-1.0	-0.5	-0.5
State & Local Governments	-1.9	-0.8	0.2	2.9	1.0	1.0	1.7	1.5	1.0	1.0

Concept	SeriesType	2017	2018	2019	2020	2021	2022
Rate On Aa-Rated Public Utility Bonds	U.S. Macro - 30 Year Baseline	4.01	4.73	5.31	5.57	5.57	5.57
Yield On Aaa-Rated Corporate Bonds	U.S. Macro - 30 Year Baseline	3.83	4.42	4.79	5.04	5.04	5.04

Concept	SeriesType	2023	2024	2025	2026	2027	2028
Rate On Aa-Rated Public Utility Bonds	U.S. Macro - 30 Year Baseline	5.57	5.57	5.57	5.57	5.57	5.57
Yield On Aaa-Rated Corporate Bonds	U.S. Macro - 30 Year Baseline	5.04	5.04	5.04	5.04	5.04	5.04

Concept	SeriesType	2029	2030	2031	2032	2033	2034
Rate On Aa-Rated Public Utility Bonds	U.S. Macro - 30 Year Baseline	5.57	5.57	5.57	5.57	5.57	5.57
Yield On Aaa-Rated Corporate Bonds	U.S. Macro - 30 Year Baseline	5.04	5.04	5.04	5.04	5.04	5.04

Concept	SeriesType	2035	2036	2037	2038	2039	2040
Rate On Aa-Rated Public Utility Bonds	U.S. Macro - 30 Year Baseline	5.57	5.57	5.57	5.57	5.57	5.57
Yield On Aaa-Rated Corporate Bonds	U.S. Macro - 30 Year Baseline	5.04	5.04	5.04	5.04	5.04	5.04

Concept	SeriesType	2041	2042	2043	2044	2045	2046
Rate On Aa-Rated Public Utility Bonds	U.S. Macro - 30 Year Baseline	5.57	5.57	5.57	5.57	5.57	5.57
Yield On Aaa-Rated Corporate Bonds	U.S. Macro - 30 Year Baseline	5.04	5.04	5.04	5.04	5.04	5.04

	2017	2018	2019	2020	2021
US Treasury Yield Curve					
10-Year Note Yield	2.65	3.15	3.84	4.07	4.07
30-Year Bond Yield	3.24	3.78	4.36	4.57	4.57

RWP-35 is available at:
https://www.eia.gov/outlooks/aeo/data/browser/#/?id=18-AEO2017&cases=ref2017&sourcekey=0

Blue Chip Financial Forecasts®

Top Analysts' Forecasts Of U.S. And Foreign Interest Rates, Currency Values And The Factors That Influence Them

Vol. 35, No. 12, December 1, 2016

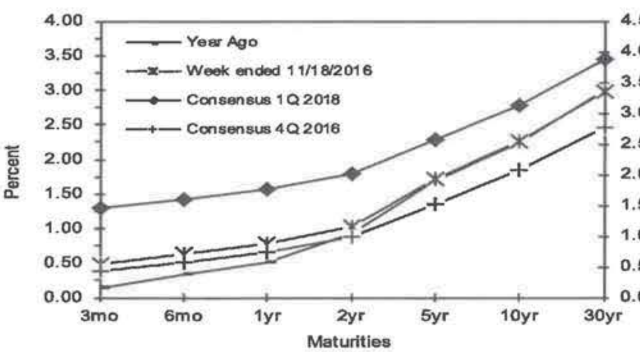
Wolters Kluwer

Consensus Forecasts Of U.S. Interest Rates And Key Assumptions[1]

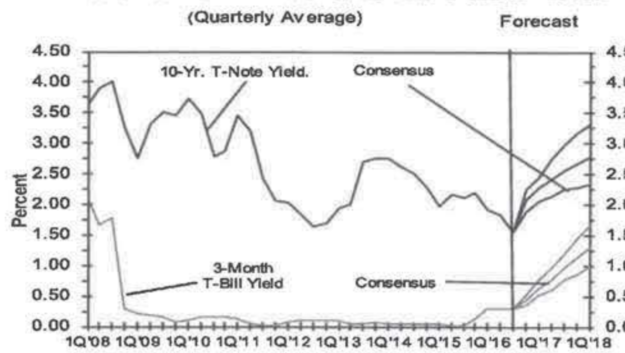
	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month			Latest Qtr	4Q	1Q	2Q	3Q	4Q	1Q
Interest Rates	Nov. 18	Nov. 11	Nov. 4	Oct. 28	Oct	Sep	Aug	3Q 2016	2016	2017	2017	2017	2017	2018
Federal Funds Rate	0.41	0.41	0.40	0.41	0.39	0.40	0.40	0.40	0.5	0.7	0.8	1.0	1.1	1.3
Prime Rate	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.6	3.8	3.9	4.1	4.2	4.4
LIBOR, 3-mo.	0.91	0.89	0.88	0.89	0.88	0.85	0.81	0.79	0.9	1.1	1.2	1.4	1.5	1.7
Commercial Paper, 1-mo.	0.43	0.42	0.42	0.40	0.43	0.40	0.37	0.37	0.5	0.7	0.9	1.1	1.3	1.4
Treasury bill, 3-mo.	0.48	0.44	0.36	0.32	0.33	0.29	0.30	0.30	0.4	0.6	0.8	1.0	1.1	1.3
Treasury bill, 6-mo.	0.62	0.56	0.51	0.48	0.47	0.47	0.45	0.44	0.6	0.8	0.9	1.1	1.3	1.4
Treasury bill, 1 yr.	0.77	0.70	0.64	0.67	0.66	0.59	0.57	0.56	0.7	0.9	1.1	1.3	1.4	1.6
Treasury note, 2 yr.	1.03	0.88	0.82	0.86	0.84	0.77	0.74	0.73	1.0	1.1	1.3	1.5	1.6	1.8
Treasury note, 5 yr.	1.71	1.42	1.27	1.30	1.27	1.18	1.13	1.13	1.5	1.7	1.9	2.0	2.2	2.3
Treasury note, 10 yr.	2.26	1.98	1.82	1.81	1.76	1.63	1.56	1.56	2.1	2.3	2.4	2.6	2.7	2.8
Treasury note, 30 yr.	2.98	2.76	2.58	2.55	2.50	2.35	2.26	2.28	2.8	3.0	3.1	3.2	3.3	3.4
Corporate Aaa bond	4.10	3.95	3.79	3.73	3.69	3.41	3.32	3.34	3.8	4.0	4.1	4.2	4.4	4.5
Corporate Baa bond	4.77	4.61	4.44	4.37	4.34	4.31	4.24	4.26	4.7	4.9	5.1	5.2	5.3	5.5
State & Local bonds	3.59	3.40	3.36	3.37	3.35	2.93	2.85	2.87	3.4	3.6	3.7	3.8	3.9	4.0
Home mortgage rate	3.94	3.57	3.54	3.47	3.47	3.46	3.44	3.45	3.8	4.0	4.2	4.3	4.4	4.6
	History								Consensus Forecasts-Quarterly					
	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q
Key Assumptions	2014	2015	2015	2015	2015	2016	2016	2016	2016	2017	2017	2017	2017	2018
Major Currency Index	82.6	89.4	89.9	91.8	93.1	93.3	89.6	90.0	92.8	93.9	94.3	94.2	94.2	93.8
Real GDP	2.3	2.0	2.6	2.0	0.9	0.8	1.4	2.9	2.3	2.2	2.2	2.3	2.2	2.3
GDP Price Index	0.5	-0.1	2.3	1.3	0.8	0.5	2.3	1.5	2.1	1.9	2.1	2.1	2.1	2.2
Consumer Price Index	-0.3	-2.9	2.4	1.4	0.8	-0.3	2.5	1.6	2.8	2.1	2.4	2.3	2.5	2.3

Forecasts for interest rates and the Federal Reserve's Major Currency Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index and Consumer Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch and are 15+ years, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; LIBOR quotes from Intercontinental Exchange. All interest rate data is sourced from Haver Analytics. Historical data for Fed's Major Currency Index is from FRSR H.10. Historical data for Real GDP and GDP Chained Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index (CPI) history is from the Department of Labor's Bureau of Labor Statistics (BLS).

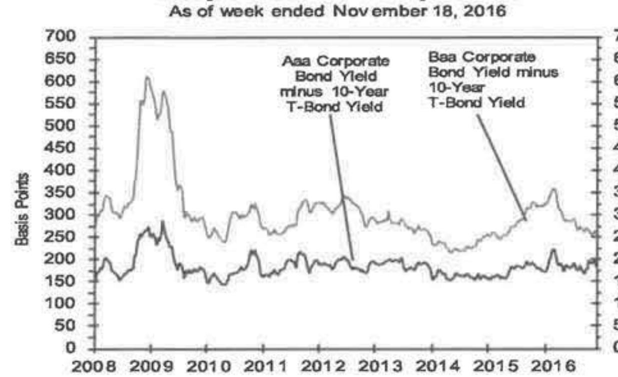
U.S. Treasury Yield Curve
Week ended November 18, 2016 and Year Ago vs. 4Q 2016 and 1Q 2018 Consensus Forecasts



U.S. 3-Mo. T-Bills & 10-Yr. T-Note Yield
(Quarterly Average)



Corporate Bond Spreads
As of week ended November 18, 2016



U.S. Treasury Yield Curve
As of week November 18, 2016

Long-Range Survey:

The table below contains the results of our twice-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are consensus estimates for the years 2018 through 2022 and averages for the five-year periods 2018-2022 and 2023-2027. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

		Average For The Year					Five-Year Averages	
Interest Rates		**2018**	**2019**	**2020**	**2021**	**2022**	**2018-2022**	**2023-2027**
1. Federal Funds Rate	**CONSENSUS**	**1.8**	**2.4**	**2.8**	**3.0**	**3.0**	**2.6**	**3.0**
	Top 10 Average	2.4	3.1	3.5	3.6	3.7	3.3	3.6
	Bottom 10 Average	1.3	1.5	2.0	2.2	2.2	1.9	2.2
2. Prime Rate	**CONSENSUS**	**4.8**	**5.5**	**5.8**	**6.0**	**6.0**	**5.6**	**5.9**
	Top 10 Average	5.4	6.2	6.6	6.7	6.7	6.3	6.6
	Bottom 10 Average	4.3	4.7	5.0	5.3	5.2	4.9	5.1
3. LIBOR, 3-Mo.	**CONSENSUS**	**2.1**	**2.8**	**3.1**	**3.2**	**3.3**	**2.9**	**3.2**
	Top 10 Average	2.7	3.4	3.8	3.9	3.9	3.5	3.8
	Bottom 10 Average	1.7	2.1	2.4	2.5	2.5	2.2	2.5
4. Commercial Paper, 1-Mo.	**CONSENSUS**	**2.0**	**2.7**	**3.1**	**3.2**	**3.2**	**2.8**	**3.2**
	Top 10 Average	2.5	3.2	3.6	3.7	3.8	3.4	3.7
	Bottom 10 Average	1.6	2.1	2.5	2.6	2.6	2.3	2.6
5. Treasury Bill Yield, 3-Mo.	**CONSENSUS**	**1.7**	**2.4**	**2.8**	**2.9**	**2.9**	**2.6**	**2.9**
	Top 10 Average	2.4	3.2	3.5	3.6	3.7	3.3	3.6
	Bottom 10 Average	1.3	1.7	2.0	2.1	2.1	1.8	2.1
6. Treasury Bill Yield, 6-Mo.	**CONSENSUS**	**1.9**	**2.6**	**2.9**	**3.1**	**3.1**	**2.7**	**3.0**
	Top 10 Average	2.6	3.3	3.7	3.8	3.8	3.4	3.7
	Bottom 10 Average	1.4	1.9	2.1	2.2	2.2	2.0	2.2
7. Treasury Bill Yield, 1-Yr.	**CONSENSUS**	**2.1**	**2.7**	**3.0**	**3.1**	**3.2**	**2.8**	**3.2**
	Top 10 Average	2.8	3.5	3.8	3.9	3.9	3.6	3.8
	Bottom 10 Average	1.5	1.9	2.2	2.3	2.3	2.1	2.3
8. Treasury Note Yield, 2-Yr.	**CONSENSUS**	**2.2**	**2.9**	**3.2**	**3.3**	**3.3**	**3.0**	**3.3**
	Top 10 Average	2.9	3.6	4.0	4.0	4.0	3.7	4.1
	Bottom 10 Average	1.7	2.1	2.4	2.5	2.5	2.2	2.4
10. Treasury Note Yield, 5-Yr.	**CONSENSUS**	**2.7**	**3.2**	**3.5**	**3.6**	**3.6**	**3.3**	**3.6**
	Top 10 Average	3.3	4.0	4.3	4.3	4.4	4.0	4.4
	Bottom 10 Average	2.2	2.4	2.6	2.8	2.8	2.6	2.8
11. Treasury Note Yield, 10-Yr.	**CONSENSUS**	**3.1**	**3.5**	**3.8**	**3.9**	**3.9**	**3.6**	**3.9**
	Top 10 Average	3.8	4.3	4.6	4.6	4.6	4.4	4.7
	Bottom 10 Average	2.5	2.7	2.9	3.1	3.1	2.8	3.1
12. Treasury Bond Yield, 30-Yr.	**CONSENSUS**	**3.8**	**4.1**	**4.3**	**4.4**	**4.4**	**4.2**	**4.5**
	Top 10 Average	4.5	5.0	5.2	5.2	5.3	5.0	5.3
	Bottom 10 Average	3.1	3.3	3.5	3.6	3.6	3.4	3.6
13. Corporate Aaa Bond Yield	**CONSENSUS**	**4.8**	**5.2**	**5.4**	**5.5**	**5.5**	**5.3**	**5.5**
	Top 10 Average	5.4	5.8	6.1	6.1	6.1	5.9	6.2
	Bottom 10 Average	4.3	4.6	4.8	4.8	4.8	4.7	4.9
13. Corporate Baa Bond Yield	**CONSENSUS**	**5.9**	**6.2**	**6.4**	**6.4**	**6.4**	**6.3**	**6.4**
	Top 10 Average	6.5	6.9	7.0	7.1	7.2	6.9	7.2
	Bottom 10 Average	5.3	5.5	5.8	5.8	5.7	5.6	5.7
14. State & Local Bonds Yield	**CONSENSUS**	**4.3**	**4.6**	**4.5**	**4.8**	**4.8**	**4.6**	**4.8**
	Top 10 Average	4.9	5.3	5.4	5.5	5.6	5.3	5.6
	Bottom 10 Average	3.8	3.8	3.5	4.0	4.0	3.8	4.0
15. Home Mortgage Rate	**CONSENSUS**	**4.9**	**5.3**	**5.5**	**5.6**	**5.6**	**5.4**	**5.6**
	Top 10 Average	5.5	6.0	6.2	6.3	6.3	6.0	6.3
	Bottom 10 Average	4.3	4.6	4.7	4.9	4.9	4.7	4.9
A. FRB - Major Currency Index	**CONSENSUS**	**94.6**	**93.8**	**93.6**	**93.5**	**93.2**	**93.8**	**92.1**
	Top 10 Average	97.6	97.9	98.3	98.4	98.4	98.1	97.4
	Bottom 10 Average	91.5	89.6	88.7	88.4	87.9	89.2	86.6

		Year-Over-Year, % Change					Five-Year Averages	
		2018	**2019**	**2020**	**2021**	**2022**	**2018-2022**	**2023-2027**
B. Real GDP	**CONSENSUS**	**2.3**	**2.2**	**2.1**	**2.1**	**2.1**	**2.2**	**2.1**
	Top 10 Average	2.7	2.5	2.4	2.4	2.4	2.5	2.5
	Bottom 10 Average	1.9	1.8	1.7	1.8	1.8	1.8	1.8
C. GDP Chained Price Index	**CONSENSUS**	**2.1**	**2.1**	**2.1**	**2.1**	**2.0**	**2.1**	**2.0**
	Top 10 Average	2.4	2.4	2.4	2.4	2.2	2.3	2.2
	Bottom 10 Average	1.8	1.8	1.9	1.9	1.9	1.9	1.9
D. Consumer Price Index	**CONSENSUS**	**2.4**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**
	Top 10 Average	2.7	2.6	2.6	2.6	2.5	2.6	2.5
	Bottom 10 Average	2.1	2.1	2.2	2.1	2.0	2.1	2.1

ATMOS ENERGY CORP. NYSE-ATO

RECENT PRICE	P/E RATIO	RELATIVE P/E RATIO	DIV'D YLD
72.84	20.8 (Trailing: 21.4, Median: 15.0)	1.09	2.5%

VALUE LINE

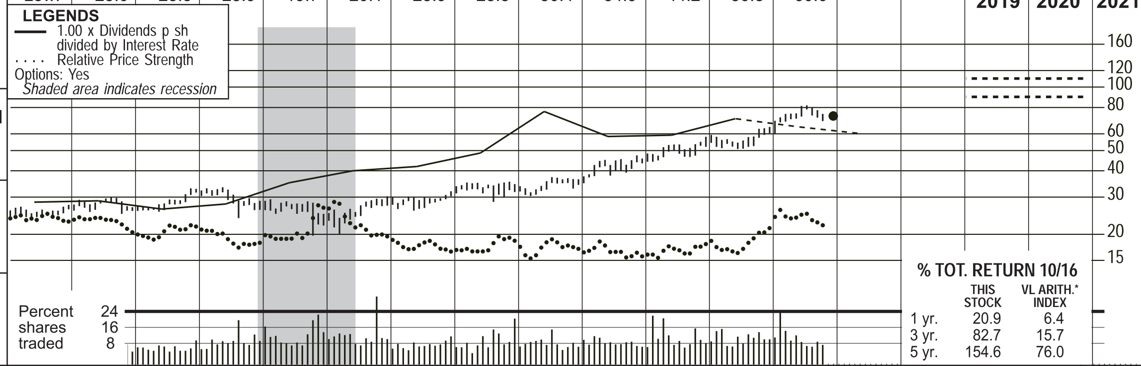
TIMELINESS	3	Lowered 9/16/16
SAFETY	1	Raised 6/6/14
TECHNICAL	3	Lowered 9/30/16

BETA .70 (1.00 = Market)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
High:	30.0	33.1	33.5	29.3	30.3	32.0	35.6	37.3	47.4	58.2	64.8
Low:	25.0	25.5	23.9	19.7	20.1	25.9	28.5	30.4	34.9	44.2	50.8

High/Low 2016 (cont.): 82.0 / 60.0

Target Price Range: 2019 | 2020 | 2021



2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	110	(+50%)	13%
Low	90	(+25%)	8%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	2	0	0	2	6	0	2	0	0
to Sell	0	0	0	0	1	0	0	2	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	159	212	188
to Sell	133	142	148
Hld's(000)	70628	71888	73716

% TOT. RETURN 10/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	20.9	6.4
3 yr.	82.7	15.7
5 yr.	154.6	76.0

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.

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
75.27	66.03	79.52	53.69	53.12	48.15	38.10	42.88	49.22	40.82	*32.20*	*33.65*	Revenues per sh A	*45.85*
4.26	4.14	4.19	4.29	4.64	4.72	4.76	5.14	5.42	5.81	*6.20*	*6.50*	"Cash Flow" per sh	*7.25*
2.00	1.94	2.00	1.97	2.16	2.26	2.10	2.50	2.96	3.09	3.38	*3.55*	Earnings per sh A B	*4.20*
1.26	1.28	1.30	1.32	1.34	1.36	1.38	1.40	1.48	1.56	1.68	*1.80*	Div'ds Decl'd per sh C■	*2.15*
5.20	4.39	5.20	5.51	6.02	6.90	8.12	9.32	8.32	9.61	*10.45*	*11.00*	Cap'l Spending per sh	*10.60*
20.16	22.01	22.60	23.52	24.16	24.98	26.14	28.47	30.74	31.48	*33.30*	*31.25*	Book Value per sh	*36.65*
81.74	89.33	90.81	92.55	90.16	90.30	90.24	90.64	100.39	101.48	*104.00*	*107.00*	Common Shs Outst'g D	*120.00*
13.5	15.9	13.6	12.5	13.2	14.4	15.9	15.9	16.1	17.5	20.8		Avg Ann'l P/E Ratio	*24.0*
.73	.84	.82	.83	.84	.90	1.01	.89	.85	.89	1.11		Relative P/E Ratio	*1.50*
4.7%	4.2%	4.8%	5.3%	4.7%	4.2%	4.1%	3.5%	3.1%	2.9%	2.4%		Avg Ann'l Div'd Yield	*2.1%*
6152.4	5898.4	7221.3	4969.1	4789.7	4347.6	3438.5	3886.3	4940.9	4142.1	3349.9	*3600*	Revenues ($mill) A	*5500*
162.3	170.5	180.3	179.7	201.2	199.3	192.2	230.7	289.8	315.1	350.1	*380*	Net Profit ($mill)	*500*
37.6%	35.8%	38.4%	34.4%	38.5%	36.4%	33.8%	38.2%	39.2%	38.3%	36.4%	*37.0%*	Income Tax Rate	*40.0%*
2.6%	2.9%	2.5%	3.6%	4.2%	4.6%	5.6%	5.9%	5.9%	7.6%	10.5%	*10.6%*	Net Profit Margin	*9.1%*
57.0%	52.0%	50.8%	49.9%	45.4%	49.4%	45.3%	48.8%	44.3%	43.5%	*39.0%*	*42.0%*	Long-Term Debt Ratio	*45.0%*
43.0%	48.0%	49.2%	50.1%	54.6%	50.6%	54.7%	51.2%	55.7%	56.5%	*61.0%*	*58.0%*	Common Equity Ratio	*55.0%*
3828.5	4092.1	4172.3	4346.2	3987.9	4461.5	4315.5	5036.1	5542.2	5650.2	*5655*	*5765*	Total Capital ($mill)	*8000*
3629.2	3836.8	4136.9	4439.1	4793.1	5147.9	5475.6	6030.7	6725.9	7430.6	*8280*	*9060*	Net Plant ($mill)	*11500*
6.1%	5.9%	5.9%	5.9%	6.9%	6.1%	6.1%	5.9%	6.4%	6.6%	*7.5%*	*8.0%*	Return on Total Cap'l	*7.5%*
9.8%	8.7%	8.8%	8.3%	9.2%	8.8%	8.1%	8.9%	9.4%	9.9%	*10.0%*	*11.5%*	Return on Shr. Equity	*11.5%*
9.8%	8.7%	8.8%	8.3%	9.2%	8.8%	8.1%	8.9%	9.4%	9.9%	*10.0%*	*11.5%*	Return on Com Equity	*11.5%*
3.6%	3.0%	3.1%	2.7%	3.5%	3.3%	2.8%	4.0%	4.7%	4.9%	*5.0%*	*5.5%*	Retained to Com Eq	*5.5%*
63%	65%	65%	68%	62%	62%	65%	56%	50%	51%	*50%*	*51%*	All Div'ds to Net Prof	*52%*

CAPITAL STRUCTURE as of 6/30/16
Total Debt $3126.1 mill. **Due in 5 Yrs** $1157.9 mill.
LT Debt $2205.6 mill. **LT Interest** $135.0 mill.
(LT interest earned: 5.4x; total interest coverage: 5.4x)
Leases, Uncapitalized Annual rentals $16.5 mill.
Pfd Stock None
Pension Assets-9/15 $450.9 mill. **Oblig.** $508.6 mill.
Common Stock 103,847,858 shs. **as of 7/29/16**
MARKET CAP: $7.6 billion (Large Cap)

CURRENT POSITION ($MILL.)	2014	2015	6/30/16
Cash Assets	42.3	28.7	66.2
Other	733.5	602.3	582.7
Current Assets	775.8	631.0	648.9
Accts Payable	311.6	238.9	198.9
Debt Due	196.7	457.9	920.5
Other	402.4	458.0	410.4
Current Liab.	910.7	1154.8	1529.8
Fix. Chg. Cov.	637%	743%	750%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	-2.0%	-6.5%	.5%
"Cash Flow"	5.0%	4.5%	5.0%
Earnings	5.5%	7.0%	6.5%
Dividends	2.0%	2.5%	6.5%
Book Value	5.0%	5.0%	3.5%

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2013	1034.2	1309.0	857.9	685.2	3886.3
2014	1255.1	1964.3	942.7	778.8	4940.9
2015	1258.8	1540.1	686.4	656.8	4142.1
2016	906.2	1132.3	632.9	678.5	3349.9
2017	*930*	*1250*	*720*	*700*	*3600*

Fiscal Year Ends	EARNINGS PER SHARE A B E Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2013	.85	1.23	.36	.08	2.50
2014	.95	1.38	.45	.23	2.96
2015	.96	1.35	.55	.23	3.09
2016	1.00	1.38	.69	.33	3.38
2017	*1.05*	*1.41*	*.72*	*.37*	*3.55*

Cal-endar	QUARTERLY DIVIDENDS PAID C■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.345	.345	.345	.35	1.39
2013	.35	.35	.35	.37	1.42
2014	.37	.37	.37	.39	1.50
2015	.39	.39	.39	.42	1.59
2016	.42	.42	.42	.45	

BUSINESS: Atmos Energy Corporation is engaged primarily in the distribution and sale of natural gas to roughly 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 2015: 66%, residential; 29%, commercial; 3%, industrial; and 2% other. The company has around 4,760 employees. Officers and directors own approximately 1.5% of common stock (12/15 Proxy). President and Chief Executive Officer: Kim R. Cocklin. Incorporated: Texas. Address: Three Lincoln Centre, Suite 1800, 5430 LBJ Freeway, Dallas, Texas 75240. Telephone: 972-934-9227. Internet: www.atmosenergy.com.

Atmos Energy may well post respectable results in fiscal 2017 (started October 1st). The natural gas distribution division, accounting for the largest portion of revenues, stands to benefit from a rise in throughput, assuming that both the weather and economic environment are generally favorable (leading to a boost in consumption levels). Also, we look for reasonably decent performances from the other segments, including the regulated pipeline unit. At this juncture, full-year profits might advance around 5%, to $3.55 a share, versus the fiscal 2016 tally of $3.38. Concerning fiscal 2018, we believe the bottom line can grow at a similar percentage rate, to $3.75 a share, if operating margins expand.

There are plans to sell Atmos Energy Marketing (AEM) to a subsidiary of CenterPoint Energy. The transaction involves the transfer of 800 delivered gas customers and AEM's related asset optimization business at an all-cash price of $40 million plus working capital at the closing date (anticipated during the first calendar quarter of 2017). Proceeds are to be utilized for infrastructure investment in the core regulated units. Note that we estimate the pending divestiture's impact on earnings per share would be minimal.

The fiscal 2017 capital expenditures budget is expected to lie between $1.1 billion and $1.25 billion. That would be some 8% higher than the previous year's figure, assuming the midpoint of that range is used. Similar to fiscal 2016, a meaningful portion of the resources will be deployed to enhance the safety and reliability of Atmos' natural gas distribution and transmission systems.

The quarterly common stock dividend was raised a few cents, to $0.45 a share. Moreover, our 2019-2021 projections indicate that additional, steady increases in the distribution will take place. The payout ratio over that period ought to be roughly 50%, which should not place a substantial financial burden on the energy company.

These top-quality shares hold decent, risk-adjusted long-term total return potential. That reflects the healthy dividend and worthwhile capital gains possibilities here.

Frederick L. Harris, III *December 2, 2016*

(A) Fiscal year ends Sept. 30th. (B) Diluted shrs. Excl. nonrec. items: '06, d18¢; '07, d2¢; '09, 12¢; '10, 5¢; '11, (1¢). Excludes discontinued operations: '11, 10¢; '12, 27¢; '13, 14¢. Next egs. rpt. due early Feb.
(C) Dividends historically paid in early March, June, Sept., and Dec. ■ Div. reinvestment plan. Direct stock purchase plan avail.
(D) In millions.
(E) Qtrs may not add due to change in shrs outstanding.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	80
Earnings Predictability	90

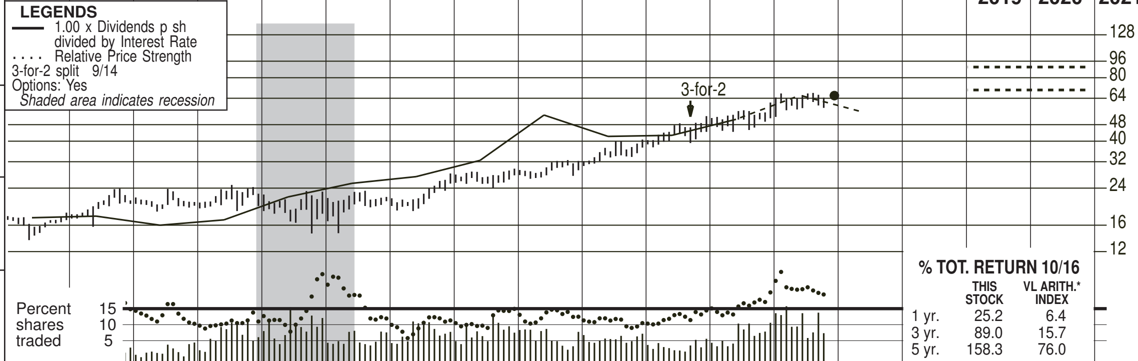
CHESAPEAKE UTIL. NYSE-CPK

RECENT PRICE 65.90 | P/E RATIO 23.9 (Trailing: 24.4 / Median: 15.0) | RELATIVE P/E RATIO 1.25 | DIV'D YLD 1.9% | VALUE LINE

TIMELINESS 4 Lowered 10/21/16
SAFETY 2 New 6/5/15
TECHNICAL 4 Lowered 11/18/16
BETA .65 (1.00 = Market)

High:	23.9	23.8	24.8	23.2	23.3	28.1	29.7	32.6	40.8	52.7	61.1	67.9
Low:	15.7	18.6	18.7	14.6	14.7	18.7	24.0	26.6	30.6	37.5	44.4	52.3

Target Price Range 2019 | 2020 | 2021



2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	90	(+35%)	*10%*
Low	70	(+5%)	*4%*

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	0	5	0	0	9	0	0	0	0
to Sell	0	0	1	0	0	1	0	0	1

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	62	86	83
to Sell	72	66	72
Hld's(000)	8284	8673	8755

% TOT. RETURN 10/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	25.2	6.4
3 yr.	89.0	15.7
5 yr.	158.3	76.0

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
42.21	40.82	17.12	19.11	20.70	26.02	23.05	25.41	28.46	19.07	29.93	29.13	27.26	30.73	34.19	30.07	***28.80***	***30.30***	Revenues per sh	***37.50***
1.95	1.95	1.93	2.42	2.26	2.35	2.18	2.52	2.50	2.15	3.50	3.69	3.95	4.35	4.73	5.05	***4.95***	***5.40***	"Cash Flow" per sh	***7.00***
.93	.83	.69	1.17	1.09	1.18	1.15	1.29	1.39	1.43	1.82	1.91	1.99	2.26	2.47	2.68	***2.75***	***2.95***	Earnings per sh A	***4.00***
.71	.73	.73	.73	.75	.76	.77	.78	.81	.83	.87	.91	.96	1.01	1.07	1.12	***1.19***	***1.26***	Div'ds Decl'd per sh B■	***1.50***
2.75	3.61	1.77	1.39	2.07	3.74	4.87	3.08	3.00	1.89	3.18	3.28	5.00	6.72	6.66	9.47	***9.70***	***10.00***	Cap'l Spending per sh	***11.60***
8.05	8.26	8.03	8.59	9.07	9.60	11.08	11.76	12.02	14.89	15.84	16.78	17.82	19.28	20.59	23.45	***27.50***	***27.40***	Book Value per sh	***30.45***
7.95	8.09	8.31	8.49	8.60	8.82	10.03	10.17	10.24	14.09	14.29	14.35	14.40	14.46	14.59	15.27	***16.50***	***17.00***	Common Shs Outst'g C	***20.00***
12.6	15.0	18.6	12.7	15.0	16.8	17.9	16.7	14.2	14.2	12.2	14.2	14.8	15.6	17.7	19.1	*Bold figures are*		Avg Ann'l P/E Ratio	***20.0***
.82	.77	1.02	.72	.79	.89	.97	.89	.85	.95	.78	.89	.94	.88	.93	.96	*Value Line*		Relative P/E Ratio	***1.25***
6.1%	5.8%	5.7%	4.9%	4.6%	3.8%	3.8%	3.6%	4.1%	4.1%	3.9%	3.4%	3.3%	2.9%	2.4%	2.2%	*estimates*		Avg Ann'l Div'd Yield	***1.9%***

CAPITAL STRUCTURE as of 9/30/16
Total Debt $310.1 mill. **Due in 5 Yrs** $230.0 mill.
LT Debt $143.5 mill. **LT Interest** $9.0 mill.
(LT interest earned: 7.7x; total interest coverage: 7.7x) (25% of Cap'l)
Leases, Uncapitalized Annual rentals $1.3 mill.
Pfd Stock None
Pension Assets-12/15 $51.0 mill. **Oblig.** $75.9 mill.
Common Stock 16,301,161 shs. **as of 10/31/16**

MARKET CAP: $1.1 billion (Mid Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
231.2	258.3	291.4	268.8	427.5	418.0	392.5	444.3	498.8	459.2	***475***	***515***	Revenues ($mill)	***750***
10.5	13.2	14.4	15.9	26.1	27.6	28.9	32.8	36.1	40.2	***43.0***	***48.0***	Net Profit ($mill)	***80.0***
39.4%	39.4%	39.1%	41.8%	39.7%	39.4%	40.1%	40.2%	39.9%	39.5%	***40.0%***	***40.0%***	Income Tax Rate	***41.0%***
4.5%	5.1%	4.9%	5.9%	6.1%	6.6%	7.4%	7.4%	7.2%	8.8%	***9.1%***	***9.3%***	Net Profit Margin	***10.7%***
39.0%	34.6%	41.3%	32.0%	28.4%	31.4%	28.4%	29.7%	34.5%	29.4%	***25.0%***	***30.0%***	Long-Term Debt Ratio	***30.0%***
61.0%	65.4%	58.7%	68.0%	71.6%	68.6%	71.6%	70.3%	65.5%	70.6%	***75.0%***	***70.0%***	Common Equity Ratio	***70.0%***
182.2	182.8	209.5	308.6	315.9	351.1	358.5	396.4	458.8	507.5	***605***	***665***	Total Capital ($mill)	***870***
240.8	260.4	280.7	436.4	462.8	487.7	541.8	631.2	689.8	855.0	***960***	***1060***	Net Plant ($mill)	***1430***
7.1%	8.4%	7.9%	6.1%	9.1%	8.9%	8.8%	8.8%	8.5%	8.9%	***8.0%***	***11.5%***	Return on Total Cap'l	***10.0%***
9.5%	11.1%	11.7%	7.6%	11.5%	11.5%	11.2%	11.8%	12.0%	11.2%	***9.5%***	***10.5%***	Return on Shr. Equity	***13.0%***
9.5%	11.1%	11.7%	7.6%	11.5%	11.5%	11.2%	11.8%	12.0%	11.2%	***9.5%***	***10.5%***	Return on Com Equity	***13.0%***
4.1%	5.2%	5.2%	3.8%	6.6%	6.6%	6.4%	7.1%	7.4%	6.8%	***5.0%***	***5.5%***	Retained to Com Eq	***8.0%***
57%	53%	55%	50%	42%	42%	43%	40%	38%	40%	***46%***	***45%***	All Div'ds to Net Prof	***38%***

CURRENT POSITION ($MILL.)	2014	2015	9/30/16
Cash Assets	4.6	2.9	1.5
Other	117.8	109.6	100.7
Current Assets	122.4	112.5	102.2
Accts Payable	44.6	39.3	41.3
Debt Due	97.3	182.5	166.6
Other	52.3	57.8	55.2
Current Liab.	194.2	279.6	263.1
Fix. Chg. Cov.	865%	898%	885%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	3.5%	4.0%	*3.0%*
"Cash Flow"	7.0%	11.5%	*7.0%*
Earnings	8.0%	10.0%	*8.5%*
Dividends	3.5%	5.0%	*6.0%*
Book Value	9.0%	8.0%	*6.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	140.7	94.1	86.6	122.9	444.3
2014	186.3	100.5	91.6	120.4	498.8
2015	170.1	92.7	91.9	104.5	459.2
2016	146.3	102.3	108.3	***118.1***	***475***
2017	***170***	***110***	***110***	***125***	***515***

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	1.02	.30	.27	.67	2.26
2014	1.21	.35	.22	.69	2.47
2015	1.44	.35	.33	.56	2.68
2016	1.33	.52	.29	***.61***	***2.75***
2017	***1.41***	***.45***	***.42***	***.67***	***2.95***

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.23	.23	.243	.243	.95
2013	.243	.243	.257	.257	1.00
2014	.257	.257	.27	.27	1.05
2015	.27	.27	.288	.288	1.12
2016	.288	.288	.305	.305	

BUSINESS: Chesapeake Utilities Corporation consists of two units: Regulated Energy and Unregulated Energy. The Regulated Energy segment (65% of 2015 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 (35% of 2015 revenues) wholesales and distributes propane; markets natural gas; and provides other unregulated energy services, including midstream services in Ohio. Officers and directors own 5.4% of common stock; T. Rowe Price, 8.3; BlackRock, 5.8% (3/16 Proxy). CEO: Michael P. McMasters. Inc.: Delaware. Address: 909 Silver Lake Boulevard, Dover, DE 19904. Tel.: (302) 734-6799. Internet: www.chpk.com.

Chesapeake Utilities appears headed for an unspectacular 2016. That's partly because first-quarter share net (versus the year-ago period's) suffered from the unfavorable impact of substantially warmer temperatures on the natural gas and propane distribution operations. This event occurred during a time when customer consumption levels are normally high. To make matters worse, the company's September-interim performance was squeezed partly by fixed pipeline and storage costs associated with natural gas supply contracts where a significant portion of sales will occur during the winter months, plus lower retail propane margins per gallon on the Delmarva Peninsula. Even though results for the second quarter were extra strong and we believe 2016 will end on a positive note, full-year profits may advance only about 2.5%, to $2.75 a share.

Brighter things might be in store for 2017, nonetheless. That ought to reflect growing benefits from the April, 2015 purchase of Aspire Energy. New projects (see below) are another positive. Generally favorable weather patterns would obviously help, as well. Consequently, Chesapeake's bottom line stands to increase around 7%, to $2.95 a share.

The 2016 capital spending budget is expected to fall between $150 million and $170 million. (That would be 10.6% higher than last year's level, using the midpoint of that range.) Projects have included Eight Flags' CHP plant; new facilities to serve an electric power generator in Kent County, Delaware; Eastern Shore's system reliability project; continued natural gas infrastructure improvement initiatives; and additional expansions of the company's natural gas distribution and transmission systems. Management states that in order to fund these expenditures it might further increase the level of borrowings to supplement cash provided by operating activities.

The dividend yield now rests below the average of all equities in *Value Line's* Natural Gas Utility group. But the payout is well covered by corporate earnings, and future, steady hikes are a good possibility. Meanwhile, the stock is ranked 4 (Below Average) for Timeliness.

Frederick L. Harris, III December 2, 2016

(A) Diluted shrs. Excludes nonrecurring items: '02, d23¢; '08, d7¢; '15, 6¢. Excludes discontinued operations: '03, d9¢; '04, d1¢. Next earnings report due early Feb.

(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	B++
Stock's Price Stability	80
Price Growth Persistence	90
Earnings Predictability	95

NEW JERSEY RES. NYSE-NJR

RECENT PRICE **33.50** | P/E RATIO **19.7** (Trailing: 20.9 / Median: 16.0) | RELATIVE P/E RATIO **1.03** | DIV'D YLD **3.0%** | VALUE LINE

TIMELINESS 3 Lowered 10/28/16
SAFETY 1 Raised 9/15/06
TECHNICAL 3 Lowered 10/28/16
BETA .80 (1.00 = Market)

High:	16.4	17.7	18.8	20.6	21.2	22.0	25.2	25.1	23.8	32.1	34.1	38.9
Low:	13.6	13.8	15.2	12.3	15.0	16.7	19.8	19.3	19.5	21.9	26.8	30.5

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	30	(-10%)	*Nil*
Low	25	(-25%)	*-4%*

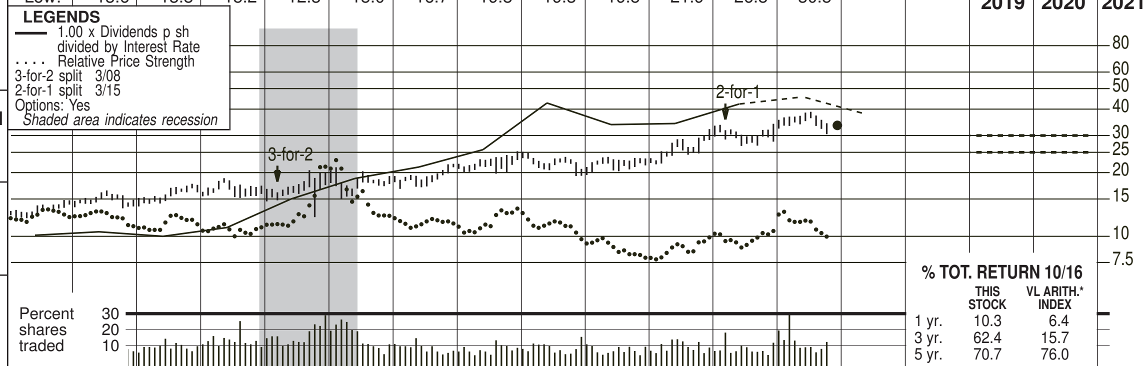
Target Price Range 2019 | 2020 | 2021

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	6	0	0	0	0	0	0	0	0
to Sell	0	0	4	0	1	0	0	0	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	117	114	103
to Sell	94	114	107
Hld's(000)	49713	51216	52551



% TOT. RETURN 10/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	10.3	6.4
3 yr.	62.4	15.7
5 yr.	70.7	76.0

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
14.71	25.61	22.06	31.14	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	*27.35*	Revenues per sh A	*29.85*
1.00	1.06	1.07	1.19	1.25	1.31	1.37	1.22	1.81	1.58	1.63	1.70	1.86	1.93	2.73	2.52	*2.45*	*2.50*	"Cash Flow" per sh	*2.85*
.60	.65	.70	.79	.85	.88	.93	.78	1.35	1.20	1.23	1.29	1.36	1.37	2.08	1.78	1.61	*1.75*	Earnings per sh B	*2.10*
.38	.39	.40	.41	.43	.45	.48	.51	.56	.62	.68	.72	.77	.81	.86	.93	.98	*1.02*	Div'ds Decl'd per sh C■	*1.05*
.62	.55	.51	.57	.72	.64	.64	.73	.86	.90	1.05	1.13	1.26	1.33	1.52	3.76	*1.70*	*1.75*	Cap'l Spending per sh	*1.80*
4.14	4.40	4.35	5.13	5.62	5.30	7.50	7.75	8.64	8.29	8.81	9.36	9.80	10.65	11.48	12.99	*13.80*	*14.55*	Book Value per sh D	*17.40*
79.17	79.99	83.00	81.70	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	*86.00*	Common Shs Outst'g E	*86.00*
14.7	14.2	14.7	14.0	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		Avg Ann'l P/E Ratio	*14.0*
.96	.73	.80	.80	.81	.89	.87	1.15	.74	.99	.95	1.05	1.07	.90	.62	.84	1.17		Relative P/E Ratio	*.90*
4.4%	4.2%	3.9%	3.7%	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%		Avg Ann'l Div'd Yield	*3.6%*

CAPITAL STRUCTURE as of 6/30/16
Total Debt $1223.8 mill. **Due in 5 Yrs** $321.9 mill.
LT Debt $967.8 mill. **LT Interest** $25.4 mill.
Incl. $53.2 mill. capitalized leases.
(LT interest earned: 7.5x; total interest coverage: 7.5x)
Pension Assets-9/15 $256.4 mill. **Oblig.** $394.4 mill.
Pfd Stock None

Common Stock 86,150,280 shs.
as of 8/1/16
MARKET CAP: $2.9 billion (Mid Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
3299.6	3021.8	3816.2	2592.5	2639.3	3009.2	2248.9	3198.1	3738.1	2734.0	1880.9	*2350*	Revenues ($mill) A	*2565*
78.5	65.3	113.9	101.0	101.8	106.5	112.4	113.7	176.9	153.7	138.1	*150*	Net Profit ($mill)	*180*
38.9%	38.8%	37.8%	27.1%	41.4%	30.2%	7.1%	25.4%	30.2%	26.3%	*32.0%*	*32.0%*	Income Tax Rate	*32.0%*
2.4%	2.2%	3.0%	3.9%	3.9%	3.5%	5.0%	3.6%	4.7%	5.6%	7.3%	*6.4%*	Net Profit Margin	*7.0%*
34.8%	37.3%	38.5%	39.8%	37.2%	35.5%	39.2%	36.6%	38.2%	43.2%	*43.0%*	*43.0%*	Long-Term Debt Ratio	*40.5%*
65.2%	62.7%	61.5%	60.2%	62.8%	64.5%	60.8%	63.4%	61.8%	56.8%	*57.0%*	*57.0%*	Common Equity Ratio	*59.5%*
954.0	1028.0	1182.1	1144.8	1154.4	1203.1	1339.0	1400.3	1564.4	1950.6	*2085*	*2200*	Total Capital ($mill)	*2495*
934.9	970.9	1017.3	1064.4	1135.7	1295.9	1484.9	1643.1	1884.1	2128.3	*2170*	*2215*	Net Plant ($mill)	*2350*
9.6%	7.7%	10.7%	9.7%	9.7%	9.7%	9.2%	9.0%	12.1%	8.6%	*7.5%*	*8.0%*	Return on Total Cap'l	*8.0%*
12.6%	10.1%	15.7%	14.6%	14.0%	13.7%	13.8%	12.8%	18.3%	13.9%	11.6%	*12.0%*	Return on Shr. Equity	*12.0%*
12.6%	10.1%	15.7%	14.6%	14.0%	13.7%	13.8%	12.8%	18.3%	13.9%	11.6%	*12.0%*	Return on Com Equity	*12.0%*
6.3%	3.6%	9.5%	7.2%	6.7%	6.2%	6.2%	5.2%	11.0%	6.8%	4.6%	*5.0%*	Retained to Com Eq	*6.0%*
50%	64%	40%	50%	52%	55%	55%	59%	40%	50%	61%	*58%*	All Div'ds to Net Prof	*50%*

CURRENT POSITION ($MILL.)	2014	2015	6/30/16
Cash Assets	2.2	4.9	94.8
Other	680.5	539.6	509.9
Current Assets	682.7	544.5	604.7
Accts Payable	330.3	273.2	216.0
Debt Due	335.5	77.5	256.0
Other	125.3	85.4	129.5
Current Liab.	791.1	436.1	601.5
Fix. Chg. Cov.	1007%	750%	750%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	1.5%	1.0%	*-4.0%*
"Cash Flow"	6.5%	7.5%	*3.0%*
Earnings	7.5%	6.5%	*3.0%*
Dividends	7.0%	7.0%	*3.5%*
Book Value	8.0%	6.5%	*7.0%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2013	736.0	960.9	767.5	733.7	3198.1
2014	878.4	1579.6	688.3	591.9	3738.1
2015	824.1	1013.1	458.5	438.3	2734.0
2016	444.3	574.2	393.2	469.2	1880.9
2017	*560*	*690*	*510*	*590*	*2350*

Fiscal Year Ends	EARNINGS PER SHARE A B Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2013	.43	.82	.12	d.01	1.37
2014	.47	1.79	.05	d.23	2.08
2015	.65	1.16	.03	d.06	1.78
2016	.58	.91	.13	d.02	1.61
2017	*.60*	*.95*	*.17*	*.03*	*1.75*

Cal-endar	QUARTERLY DIVIDENDS PAID C ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.19	.19	.19	.40	.97
2013	- -	.20	.20	.20	.60
2014	.21	.21	.21	.23	.86
2015	.23	.23	.23	.24	.93
2016	.24	.24	.24	.255	

BUSINESS: New Jersey Resources Corp. is a holding company providing retail/wholesale energy svcs. to customers in New Jersey, and in states from the Gulf Coast to New England, and Canada. New Jersey Natural Gas had about 512,300 customers at 9/30/15 in Monmouth and Ocean counties, and other N.J. counties. Fiscal 2015 volume: 341 bill. cu. ft. (14% interruptible, 21% residential and commercial and electric utility, 65% incentive programs). N.J. Natural Energy subsidiary provides unregulated retail/wholesale natural gas and related energy svcs. 2015 dep. rate: 2.5%. Has 991 empls. Off./dir. own about 1.4% of common (12/15 Proxy). Chrmn., CEO & Pres.: Laurence M. Downes. Inc.: NJ Addr.: 1415 Wyckoff Road, Wall, NJ 07719. Tel.: 732-938-1480. Web: www.njresources.com.

New Jersey Resources faced a difficult operating environment in fiscal 2016 (ended September 30th). Indeed, the company posted a downturn in both revenues and earnings this past year. What's more, since our September review, the stock has registered a modest 5% pullback, likely as a reflection of the slowdown in the retail/wholesale energy business. Revenues declined more than 30% on a year-over-year basis, to $1.88 billion. This largely stemmed from the warmer-than-normal weather patterns that existed across NJR's service territory. This trend was further exacerbated by the falloff of natural gas and commodity prices when compared to 2015's levels. Despite these challenges, the New Jersey Natural Gas (NJNG), regulated utility business added 8,170 new customer accounts in 2016. A bit more than 55% of those came from new construction. Still, on the profitability front, the sharp downturn in volumes weighed on both fixed- and variable-cost absorption. In fact, operating expenses ticked 20 basis points higher, when viewed as a percentage of the top line. Combined, these factors equated to an earnings reduction of almost 10%, to $1.61 per share. This was in line with our expectation.

That said, we have adjusted our outlook for this year. The company appears poised to log a rebound in revenues of about 25%, to $2.35 billion, due primarily to new NJNG customer accounts. Management estimates roughly 24,000-27,000 accounts will be added between fiscal 2017 and 2019. Elsewhere, the regulated utility division received approval of a rate reduction as well as a bill credit, that will have a net impact on the typical residential heating customer lowering a bill about 2% annually. This helps to put rates more in line with the current natural gas pricing environment. Finally, we have trimmed a nickel off our 2017 share-net estimate, to $1.75, placing it near the top end of management's recently issued guidance range of $1.65-$1.75. This would represent an annual increase of almost 9%.

We think most investors' funds could be better utilized elsewhere. Neutrally ranked NJR is lacking upside potential based on our projections. And the dividend yield is a bit light for a utility.

Bryan J. Fong *December 2, 2016*

(A) Fiscal year ends Sept. 30th.
(B) Diluted earnings. Qtly egs may not sum to total due to change in shares outstanding. Next earnings report due late Jan.
(C) Dividends historically paid in early Jan., April, July, and October. 1Q '13 div'd paid in 4Q '12. ■ Dividend reinvestment plan available.
(D) Includes regulatory assets in 2015: $410.2 million, $4.82/share.
(E) In millions, adjusted for splits.

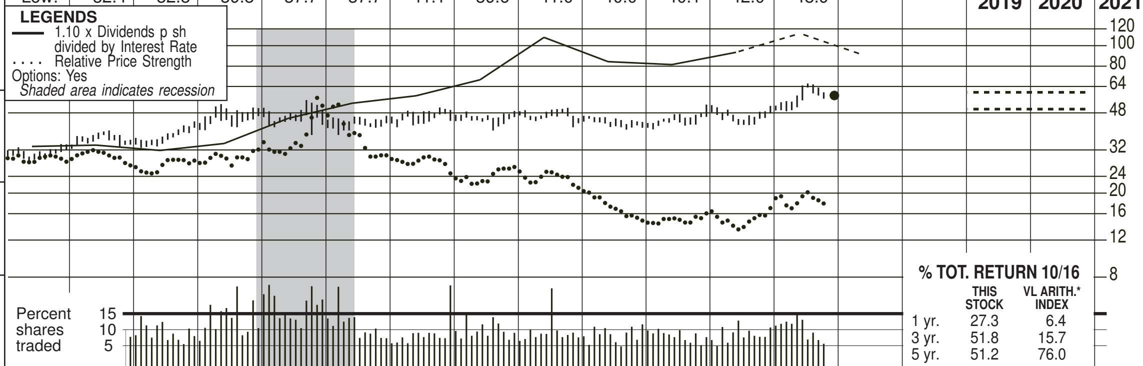
Company's Financial Strength	A+
Stock's Price Stability	85
Price Growth Persistence	55
Earnings Predictability	55

N.W. NAT'L GAS NYSE-NWN

RECENT PRICE 57.95 | P/E RATIO 26.3 (Trailing: 26.5, Median: 18.0) | RELATIVE P/E RATIO 1.38 | DIV'D YLD 3.2% | VALUE LINE

TIMELINESS 3 Lowered 8/12/16
SAFETY 1 Raised 3/18/05
TECHNICAL 2 Raised 12/2/16
BETA .65 (1.00 = Market)

High:	39.6	43.7	52.8	55.2	46.5	50.9	49.0	50.8	46.6	52.6	52.3	66.2
Low:	32.4	32.8	39.8	37.7	37.7	41.1	39.6	41.0	40.0	40.1	42.0	48.9



2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	60	(+5%)	4%
Low	50	(-15%)	Nil

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	4	12	3	0	4	6	1	0	0
to Sell	0	0	4	0	2	7	1	0	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	81	98	118
to Sell	65	65	80
Hld's(000)	16813	15946	16937

% TOT. RETURN 10/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	27.3	6.4
3 yr.	51.8	15.7
5 yr.	51.2	76.0

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
21.09	25.78	25.07	23.57	25.69	33.01	37.20	39.13	39.16	38.17	30.56	31.72	27.14	28.02	27.64	26.39	*23.45*	*25.15*	Revenues per sh	*28.90*
3.68	3.86	3.65	3.85	3.92	4.34	4.76	5.41	5.31	5.20	5.18	5.00	4.94	5.04	5.05	4.91	*4.50*	*4.85*	"Cash Flow" per sh	*6.05*
1.79	1.88	1.62	1.76	1.86	2.11	2.35	2.76	2.57	2.83	2.73	2.39	2.22	2.24	2.16	1.96	*2.15*	*2.35*	Earnings per sh A	*3.15*
1.24	1.25	1.26	1.27	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*	Div'ds Decl'd per sh B■	*2.05*
3.46	3.23	3.11	4.90	5.52	3.48	3.56	4.48	3.92	5.09	9.35	3.76	4.91	5.13	4.40	4.37	*4.50*	*6.20*	Cap'l Spending per sh	*6.35*
17.93	18.56	18.88	19.52	20.64	21.28	22.01	22.52	23.71	24.88	26.08	26.70	27.23	27.77	28.12	28.47	*27.40*	*28.40*	Book Value per sh D	*30.55*
25.23	25.23	25.59	25.94	27.55	27.58	27.24	26.41	26.50	26.53	26.58	26.76	26.92	27.08	27.28	27.43	*29.00*	*29.00*	Common Shs Outst'g C	*28.00*
12.4	12.9	17.2	15.8	16.7	17.0	15.9	16.7	18.1	15.2	17.0	19.0	21.1	19.4	20.7	23.7	*Bold figures are*		Avg Ann'l P/E Ratio	*17.0*
.81	.66	.94	.90	.88	.91	.86	.89	1.09	1.01	1.08	1.19	1.34	1.09	1.09	1.19	*Value Line*		Relative P/E Ratio	*1.05*
5.6%	5.1%	4.5%	4.6%	4.2%	3.7%	3.7%	3.1%	3.3%	3.7%	3.6%	3.9%	3.8%	4.2%	4.1%	4.0%	*estimates*		Avg Ann'l Div'd Yield	*3.7%*

CAPITAL STRUCTURE as of 9/30/16
Total Debt $790.1 mill. **Due in 5 Yrs** $360.0 mill.
LT Debt $530.2 mill. **LT Interest** $45.0 mill.

(Total interest coverage: 3.5x)

Pension Assets-12/15 $249.4 mill. **Oblig.** $445.6 mill.

Pfd Stock None

Common Stock 27,557,756 shares **as of 10/21/16**

MARKET CAP $1.6 billion (Mid Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
1013.2	1033.2	1037.9	1012.7	812.1	848.8	730.6	758.5	754.0	723.8	*680*	*730*	Revenues ($mill)	*865*
65.2	74.5	68.5	75.1	72.7	63.9	59.9	60.5	58.7	53.7	*62.0*	*68.0*	Net Profit ($mill)	*86.0*
36.3%	37.2%	36.9%	38.3%	40.5%	40.4%	42.4%	40.8%	41.5%	40.0%	*35.0%*	*35.0%*	Income Tax Rate	*35.0%*
6.4%	7.2%	6.6%	7.4%	8.9%	7.5%	8.2%	8.0%	7.8%	7.4%	*9.2%*	*9.3%*	Net Profit Margin	*10.9%*
46.3%	46.3%	44.9%	47.7%	46.1%	47.3%	48.5%	47.6%	44.8%	42.5%	*43.0%*	*43.0%*	Long-Term Debt Ratio	*43.0%*
53.7%	53.7%	55.1%	52.3%	53.9%	52.7%	51.5%	52.4%	55.2%	57.5%	*57.0%*	*57.0%*	Common Equity Ratio	*57.0%*
1116.5	1106.8	1140.4	1261.8	1284.8	1356.2	1424.7	1433.6	1389.0	1357.7	*1390*	*1445*	Total Capital ($mill)	*1605*
1425.1	1495.9	1549.1	1670.1	1854.2	1893.9	1973.6	2062.9	2121.6	2182.7	*2270*	*2360*	Net Plant ($mill)	*2655*
7.1%	8.5%	7.7%	7.3%	7.0%	6.2%	5.7%	5.8%	5.8%	5.5%	*5.5%*	*6.0%*	Return on Total Cap'l	*7.5%*
10.9%	12.5%	10.9%	11.4%	10.5%	8.9%	8.2%	8.1%	7.6%	6.9%	*8.0%*	*8.0%*	Return on Shr. Equity	*10.5%*
10.9%	12.5%	10.9%	11.4%	10.5%	8.9%	8.2%	8.1%	7.6%	6.9%	*8.0%*	*8.0%*	Return on Com Equity	*10.5%*
4.5%	6.0%	4.5%	5.0%	4.0%	2.4%	1.6%	1.5%	1.1%	.6%	*1.0%*	*1.5%*	Retained to Com Eq	*3.5%*
59%	52%	59%	56%	61%	73%	80%	81%	85%	92%	*87%*	*80%*	All Div'ds to Net Prof	*65%*

CURRENT POSITION ($MILL.)	2014	2015	9/30/16
Cash Assets	9.5	4.2	6.2
Other	353.1	327.9	204.4
Current Assets	362.6	332.1	210.6
Accts Payable	91.4	73.2	55.9
Debt Due	274.7	295.0	259.9
Other	103.3	109.5	86.9
Current Liab.	469.4	477.7	402.7
Fix. Chg. Cov.	321%	300%	350%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	- -	-5.5%	*1.0%*
"Cash Flow"	2.0%	-1.0%	*3.0%*
Earnings	1.0%	-5.0%	*7.0%*
Dividends	3.5%	3.0%	*2.0%*
Book Value	3.0%	2.5%	*1.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	277.9	131.7	88.2	260.7	758.5
2014	293.4	133.1	87.2	240.3	754.0
2015	261.7	138.3	93.1	230.7	723.8
2016	255.5	99.2	87.7	*237.6*	*680*
2017	*255*	*130*	*95.0*	*250*	*730*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	1.40	.08	d.31	1.07	2.24
2014	1.40	.04	d.32	1.04	2.16
2015	1.04	.08	d.24	1.08	1.96
2016	1.33	.07	d.29	*1.04*	*2.15*
2017	*1.35*	*.10*	*d.25*	*1.15*	*2.35*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.445	.445	.445	.455	1.79
2013	.455	.455	.455	.460	1.83
2014	.460	.460	.460	.465	1.85
2015	.465	.465	.465	.4675	1.86
2016	.4675	.4675	.4675	.470	

BUSINESS: Northwest Natural Gas Co. distributes natural gas to 90 communities, 704,000 customers, in Oregon (89% of customers) and in southwest Washington state. Principal cities served: Portland and Eugene, OR; Vancouver, WA. Service area population: 2.5 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, 35%; commercial, 22%; industrial, gas transportation, and other, 43%. Employs 1,092. BlackRock Inc. owns 10.0% of shares; officers and directors, 2.1% (4/16 proxy). CEO: Gregg S. Kantor. Inc.: Oregon. Address: 220 NW 2nd Ave., Portland, OR 97209. Telephone: 503-226-4211. Internet: www.nwnatural.com.

Northwest Natural Gas reported lackluster third-quarter results. Revenues fell 6% year over year, hurt by lower commodity prices. Still, the company had better gross profits, aided by stronger gas storage results. Operating expenses increased during the quarter, while bottom-line results were hurt by a $1.2 million environmental remediation charge. This caused losses to expand to $0.29 a share. Still, cooler weather is expected in the fourth quarter, which should help drive revenues higher. We have lowered our 2016 full-year estimate by a nickel to $2.15 a share.

Near-term results should benefit from improvements in the Portland market. Unemployment there has continued to drop, and construction in the area continues to be strong, as building permits were up 20% year over year. Too, the company should continue to benefit from decent conversion efforts, which ought to drive usage growth. These efforts will likely allow for better earnings in 2017.

Meanwhile, the Mist expansion plant has received its notice to proceed from Portland General Electric. This project will provide up to 120 million cubic feet of gas per day through a 13-mile pipeline, and will cost around $128 million. The company has already started to raise the funds required through equity sales, as it will sell up to 1.01 million shares, largely paying for the early buildout of the system. The facility is on track to be in service by the winter of 2018-2019, and will allow for a sizable bump in earnings.

The company raised its quarterly dividend to $0.47 a share (up 1%). This marks the 61st annual increase for the dividend aristocrat. The yield remains average for a utility, and will likely grow at modest rates until the Mist facility comes on line. Too, higher market interest rates are expected, which should decrease the appeal of the slow-growing dividend.

Shares of Northwest Natural Gas do not hold much appeal at the recent quotation. They are trading within our long-term Target Price Range, and the yield does not stand out among utilities. Long-term accounts would be best served waiting for a dip in price.

John E. Seibert III *December 2, 2016*

(A) Diluted earnings per share. Excludes nonrecurring items: '00, $0.11; '06, ($0.06); '08, ($0.03); '09, 6¢; May not sum due to rounding. Next earnings report due in early February.

(B) Dividends historically paid in mid-February, May, August, and November.
■ Dividend reinvestment plan available.
(C) In millions.

(D) Includes intangibles. In 2015: $370.7 million, $13.52/share.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	25
Earnings Predictability	85

SOUTH JERSEY INDS. NYSE-SJI

RECENT PRICE **32.95** | P/E RATIO **22.4** (Trailing: 20.7 Median: 17.0) | RELATIVE P/E RATIO **1.17** | DIV'D YLD **3.3%** | VALUE LINE

TIMELINESS 2 Lowered 10/28/16
SAFETY 2 Lowered 1/4/91
TECHNICAL 3 Lowered 11/18/16
BETA .80 (1.00 = Market)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
High:	16.2	17.1	20.6	20.3	20.4	27.1	29.0	29.0	31.1	30.6	30.4	32.9
Low:	12.5	12.8	15.6	12.6	16.0	18.6	21.4	22.9	25.3	25.9	21.2	22.1

Target Price Range
2019 | 2020 | 2021

2019-21 PROJECTIONS

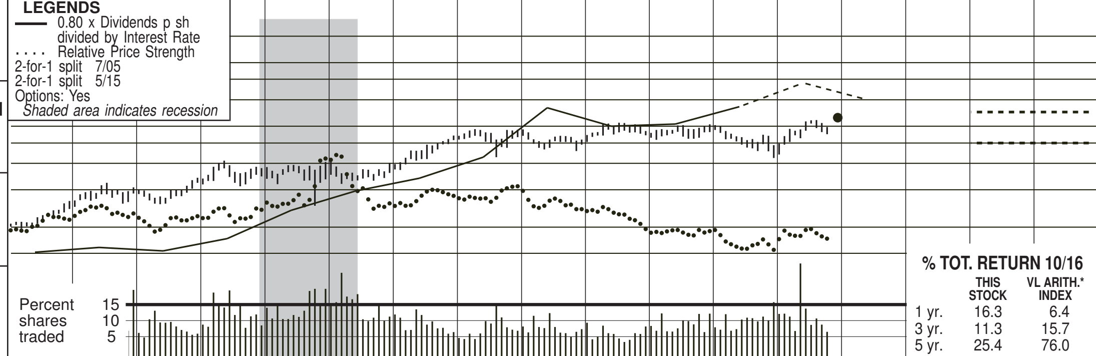
	Price	Gain	Ann'l Total Return
High	35	(+5%)	5%
Low	25	(-25%)	-2%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	9	0	9	0	0	1	0	0	0
to Sell	0	0	1	1	0	0	0	0	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	105	109	129
to Sell	72	77	61
Hld's(000)	43333	46585	56193



% TOT. RETURN 10/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	16.3	6.4
3 yr.	11.3	15.7
5 yr.	25.4	76.0

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
11.22	17.65	10.35	13.17	14.75	15.89	15.88	16.15	16.18	14.19	15.48	13.71	11.16	11.18	12.98	13.52	*12.40*	*12.80*	Revenues per sh	*15.10*
.97	.95	1.06	1.12	1.22	1.25	1.75	1.60	1.74	1.86	2.10	2.23	2.34	2.48	2.67	2.42	*2.45*	*2.55*	"Cash Flow" per sh	*2.95*
.54	.57	.61	.68	.79	.86	1.23	1.05	1.14	1.19	1.35	1.45	1.52	1.52	1.57	1.44	*1.45*	*1.50*	Earnings per sh A	*1.80*
.37	.37	.38	.39	.41	.43	.46	.51	.56	.61	.68	.75	.83	.90	.96	1.02	*1.06*	*1.10*	Div'ds Decl'd per sh B ■	*1.30*
1.11	1.41	1.74	1.18	1.34	1.60	1.26	.94	1.04	1.83	2.79	3.20	4.01	4.84	5.01	4.87	*3.25*	*3.90*	Cap'l Spending per sh	*5.10*
3.62	3.91	4.84	5.63	6.20	6.75	7.55	8.12	8.67	9.12	9.54	10.33	11.63	12.64	13.65	14.62	*16.90*	*18.30*	Book Value per sh C	*21.50*
46.00	47.44	48.83	52.92	55.52	57.96	58.65	59.22	59.46	59.59	59.75	60.43	63.31	65.43	68.33	70.97	*80.00*	*82.00*	Common Shs Outst'g D	*86.00*
13.0	13.6	13.5	13.3	14.1	16.6	11.9	17.2	15.9	15.0	16.8	18.4	16.9	18.9	18.0	17.9	*Bold figures are*		Avg Ann'l P/E Ratio	*16.0*
.85	.70	.74	.76	.74	.88	.64	.91	.96	1.00	1.07	1.15	1.08	1.06	.95	.90	*Value Line*		Relative P/E Ratio	*1.00*
5.2%	4.7%	4.6%	4.3%	3.7%	3.0%	3.2%	2.8%	3.1%	3.4%	3.0%	2.8%	3.2%	3.1%	3.4%	3.9%	*estimates*		Avg Ann'l Div'd Yield	*4.5%*

CAPITAL STRUCTURE as of 9/30/16
Total Debt $1270.8 mill. **Due in 5 Yrs** $1140 mill.
LT Debt $808.7 mill. **LT Interest** $25.0 mill.
(Total interest coverage: 6.1x)

Leases, Uncapitalized Annual rentals $.8 mill.
Pension Assets-12/15 $184.8 mill.
Oblig. $254.2 mill.

Pfd Stock None

Common Stock 79,477,822 shs.
as of 11/1/16

MARKET CAP: $2.6 billion (Mid Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
931.4	956.4	962.0	845.4	925.1	828.6	706.3	731.4	887.0	959.6	*990*	*1050*	Revenues ($mill)	*1300*
72.0	61.8	67.7	71.3	81.0	87.0	93.3	97.1	104.0	99.0	*110*	*120*	Net Profit ($mill)	*150*
41.3%	41.9%	47.7%	23.0%	15.2%	22.4%	10.8%	- -	10.8%	5.9%	*25.0%*	*25.0%*	Income Tax Rate	*25.0%*
7.7%	6.5%	7.0%	8.4%	8.8%	10.5%	13.2%	13.3%	11.7%	10.3%	*11.1%*	*11.4%*	Net Profit Margin	*11.5%*
44.7%	42.7%	39.2%	36.5%	37.4%	40.5%	45.0%	45.1%	48.0%	49.2%	*41.5%*	*42.5%*	Long-Term Debt Ratio	*45.0%*
55.3%	57.3%	60.8%	63.5%	62.6%	59.5%	55.0%	54.9%	52.0%	50.8%	*58.5%*	*57.5%*	Common Equity Ratio	*55.0%*
801.1	839.0	848.0	856.4	910.1	1048.3	1337.6	1507.4	1791.9	2043.9	*2300*	*2600*	Total Capital ($mill)	*3350*
920.0	948.9	982.6	1073.1	1193.3	1352.4	1578.0	1859.1	2134.1	2448.1	*2580*	*2700*	Net Plant ($mill)	*3000*
10.1%	8.6%	8.9%	9.0%	9.5%	8.9%	7.4%	6.8%	6.4%	5.4%	*5.5%*	*5.0%*	Return on Total Cap'l	*5.0%*
16.3%	12.8%	13.1%	13.1%	14.2%	13.9%	12.7%	11.7%	11.2%	9.5%	*8.0%*	*8.0%*	Return on Shr. Equity	*8.0%*
16.3%	12.8%	13.1%	13.1%	14.2%	13.9%	12.7%	11.7%	11.2%	9.5%	*8.0%*	*8.0%*	Return on Com Equity	*8.0%*
10.2%	6.7%	6.7%	6.4%	7.1%	6.7%	5.8%	4.8%	4.3%	2.8%	*2.0%*	*2.0%*	Retained to Com Eq	*2.0%*
37%	48%	49%	51%	50%	52%	55%	59%	61%	71%	*77%*	*75%*	All Div'ds to Net Prof	*75%*

CURRENT POSITION ($MILL.)	2014	2015	9/30/16
Cash Assets	4.2	3.9	6.9
Other	562.5	427.4	350.9
Current Assets	566.7	431.3	357.8
Accts Payable	273.0	186.4	141.1
Debt Due	395.6	461.2	462.1
Other	181.6	184.9	209.2
Current Liab.	850.2	832.5	812.4
Fix. Chg. Cov.	432%	496%	572%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	-1.5%	-4.0%	*3.0%*
"Cash Flow"	7.5%	6.0%	*2.5%*
Earnings	7.0%	4.0%	*3.0%*
Dividends	9.0%	9.5%	*6.5%*
Book Value	8.0%	8.5%	*8.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	255.6	122.6	128.8	224.4	731.4
2014	350.2	133.3	122.4	281.1	887.0
2015	383.0	177.7	141.1	257.8	959.6
2016	333.0	154.4	219.1	*283.5*	*990*
2017	*350*	*175*	*200*	*325*	*1050*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.76	.16	d.02	.62	1.52
2014	1.01	.15	d.05	.47	1.57
2015	.86	.03	d.07	.62	1.44
2016	.80	.12	.05	*.48*	*1.45*
2017	*.82*	*.12*	*Nil*	*.56*	*1.50*

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	- -	.202	.202	.423	.83
2013	- -	.222	.222	.458	.90
2014	- -	.237	.237	.488	.96
2015	- -	.251	.251	.515	1.02
2016	- -	.264	.264	.536	

BUSINESS: South Jersey Industries, Inc. is a holding company. Its subsidiary, South Jersey Gas Co., distributes natural gas to 373,100 customers in New Jersey's southern counties. Gas revenue mix '15: residential, 45%; commercial, 22%; cogeneration and electric generation, 12%; industrial, 21%. Non-utility operations include: South Jersey Energy, South Jersey Resources Group, South Jersey Exploration, Marina Energy, South Jersey Energy Service Plus, and SJI Midstream. Has about 720 employees. Off./dir. own less than 1% of common shares; BlackRock, Inc., 10.5%; The Vanguard Group, Inc., 7.7% (3/16 proxy). Pres. & CEO: Michael J. Renna. Inc.: NJ. Address: 1 South Jersey Plaza, Folsom, NJ 08037. Tel.: 609-561-9000. Internet: www.sjindustries.com.

Shares of South Jersey Industries are trading near an all-time high price. The company posted impressive results for the September interim. This was largely due to performance at SJ Energy Services. This line benefited from strong production from its solar fleet and improved SREC (Solar Renewable Energy Credit) prices. A recovery related to the writedown of an energy facility and investment tax credits associated with solar project development also boosted results here. Both SJ Energy Group and utility South Jersey Gas reported lower operating losses for the period. The third quarter is traditionally weak for the utility.

South Jersey Gas has received regulatory approval to continue its Accelerated Infrastructure Replacement Program and to adjust rates to reflect prior investments. This allows the utility to invest up to $302.5 million over the next five years to continue the accelerated replacement of aging bare steel and cast iron mains with plastic pipe, which is more durable. It will recover these investments though annual rate adjustments, the first of which will occur next October. South Jersey Gas is also to recover $74.5 million in safety and reliability investments not previously reflected in rates through a base rate adjustment. In addition, the utility will issue customers a $10 million credit, mainly due to lower-than-expected wholesale gas costs.

We expect healthy operating improvement to late decade. The utility should further benefit from infrastructure investment and customer additions. Natural gas remains the fuel of choice within its service territory, and this business should continue to gain from customer conversions. Meanwhile, growth in the number of fuel management contracts augurs well for volumes and margins at SJ Energy Group. Elsewhere, SJ Energy Services should benefit from the healthy performance of its energy production assets.

This timely stock offers a good dividend yield. Moreover, South Jersey earns favorable marks for Safety, Financial Strength, Price Stability, and Earnings Predictability. But capital gains potential is underwhelming at this juncture, following a run-up in the share price.

Michael Napoli, CFA *December 2, 2016*

(A) Based on GAAP egs. through 2006, economic egs. thereafter. GAAP EPS: '07, $1.05; '08, $1.29; '09, $0.97; '10, $1.11; '11, $1.49; '12, $1.49; '13, $1.28; '14, $1.46; '15, $1.52. Excl. nonrecur. gain (loss): '01, $0.07; '08, $0.16; '09, ($0.22); '10, ($0.24); '11, $0.04; '12, ($0.03); '13, ($0.24); '14, ($0.11); '15, $0.08. Egs. may not sum due to rounding. Next egs. report due late February. **(B)** Div'ds paid early April, July, Oct., and late Dec. ■ Div. reinvest. plan avail. **(C)** Incl. reg. assets. In 2015: $521.0 mill., $7.34 per shr. **(D)** In mill., adj. for split.

Company's Financial Strength	A
Stock's Price Stability	90
Price Growth Persistence	40
Earnings Predictability	80

SOUTHWEST GAS NYSE-SWX

RECENT PRICE	P/E RATIO		RELATIVE P/E RATIO	DIV'D YLD	
74.45	22.4	(Trailing: 23.3 Median: 16.0)	1.17	2.5%	VALUE LINE

TIMELINESS 3 Lowered 9/30/16
SAFETY 3 Lowered 1/4/91
TECHNICAL 4 Lowered 11/18/16
BETA .75 (1.00 = Market)

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	80	(+5%)	5%
Low	55	(-25%)	-3%

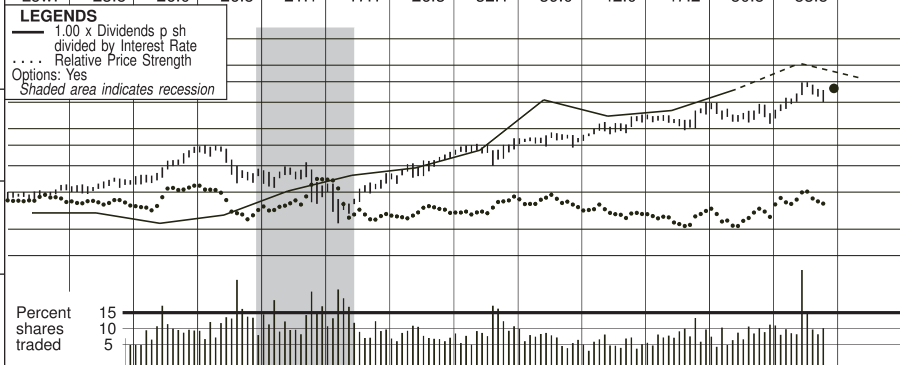
Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	8	20	10	0	1	1	0	1	1
to Sell	0	0	9	0	3	5	0	1	1

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	99	108	111
to Sell	87	85	102
Hld's(000)	37256	37942	37855

High:	28.1	39.4	39.9	33.3	29.5	37.3	43.2	46.1	56.0	64.2	63.7	79.6
Low:	23.5	26.0	26.5	21.1	17.1	26.3	32.1	39.0	42.0	47.2	50.5	53.5



Target Price Range
2019 | 2020 | 2021

128 96 80 64 48 40 32 24 16 12

% TOT. RETURN 10/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	21.1	6.4
3 yr.	44.8	15.7
5 yr.	110.0	76.0

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
32.61	42.98	39.68	35.96	40.14	43.59	48.47	50.28	48.53	42.00	40.18	41.07	41.77	42.08	45.61	52.00	*52.60*	*53.55*	Revenues per sh	*61.55*
4.57	4.79	5.07	5.11	5.57	5.20	5.97	6.21	5.76	6.16	6.46	6.81	7.73	8.24	8.47	8.62	*9.25*	*10.10*	"Cash Flow" per sh	*12.30*
1.21	1.15	1.16	1.13	1.66	1.25	1.98	1.95	1.39	1.94	2.27	2.43	2.86	3.11	3.01	2.92	*3.20*	*3.50*	Earnings per sh A	*4.50*
.82	.82	.82	.82	.82	.82	.82	.86	.90	.95	1.00	1.06	1.18	1.32	1.46	1.62	*1.76*	*1.90*	Div'ds Decl'd per sh B■†	*2.40*
7.04	8.17	8.50	7.03	8.23	7.49	8.27	7.96	6.79	4.81	4.73	8.29	8.57	7.86	8.53	10.30	*11.25*	*11.75*	Cap'l Spending per sh	*13.10*
16.82	17.27	17.91	18.42	19.18	19.10	21.58	22.98	23.49	24.44	25.62	26.66	28.35	30.47	31.95	33.61	*34.90*	*36.20*	Book Value per sh	*40.40*
31.71	32.49	33.29	34.23	36.79	39.33	41.77	42.81	44.19	45.09	45.56	45.96	46.15	46.36	46.52	47.38	*48.00*	*49.00*	Common Shs Outst'g C	*52.00*
16.0	19.0	19.9	19.2	14.3	20.6	15.9	17.3	20.3	12.2	14.0	15.7	15.0	15.8	17.9	19.4	*Bold figures are*		Avg Ann'l P/E Ratio	*15.0*
1.04	.97	1.09	1.09	.76	1.10	.86	.92	1.22	.81	.89	.98	.95	.89	.94	.98	*Value Line*		Relative P/E Ratio	*.95*
4.2%	3.8%	3.6%	3.8%	3.5%	3.2%	2.6%	2.6%	3.2%	4.0%	3.2%	2.8%	2.8%	2.7%	2.7%	2.9%	*estimates*		Avg Ann'l Div'd Yield	*3.6%*

CAPITAL STRUCTURE as of 9/30/16
Total Debt $1642.4 mill. **Due in 5 Yrs** $525.0 mill.
LT Debt $1592.9 mill. **LT Interest** $72.0 mill.
(Total interest coverage: 4.3x) (49% of Cap'l)
Leases, Uncapitalized Annual rentals $7.0 mill.
Pension Assets-12/15 $780.5 mill.
Oblig. $1117.4 mill.
Pfd Stock None

Common Stock 47,482,068 shs.
as of 10/28/16

MARKET CAP: $3.5 billion (Mid Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
2024.7	2152.1	2144.7	1893.8	1830.4	1887.2	1927.8	1950.8	2121.7	2463.6	*2525*	*2625*	Revenues ($mill)	*3200*
80.5	83.2	61.0	87.5	103.9	112.3	133.3	145.3	141.1	138.3	*155*	*175*	Net Profit ($mill)	*240*
37.3%	36.5%	40.1%	34.0%	34.7%	36.2%	36.2%	35.0%	35.7%	36.4%	*35.0%*	*35.0%*	Income Tax Rate	*35.0%*
4.0%	3.9%	2.8%	4.6%	5.7%	6.0%	6.9%	7.4%	6.7%	5.6%	*6.1%*	*6.7%*	Net Profit Margin	*7.5%*
60.6%	58.1%	55.3%	53.5%	49.1%	43.2%	49.2%	49.4%	52.4%	49.3%	*49.0%*	*49.0%*	Long-Term Debt Ratio	*49.0%*
39.4%	41.9%	44.7%	46.5%	50.9%	56.8%	50.8%	50.6%	47.6%	50.7%	*51.0%*	*51.0%*	Common Equity Ratio	*51.0%*
2287.8	2349.7	2323.3	2371.4	2291.7	2155.9	2576.9	2793.7	3123.9	3143.5	*3275*	*3475*	Total Capital ($mill)	*4100*
2668.1	2845.3	2983.3	3034.5	3072.4	3218.9	3343.8	3486.1	3658.4	3891.1	*4080*	*4275*	Net Plant ($mill)	*4850*
5.5%	5.5%	4.5%	5.4%	6.1%	6.4%	6.4%	6.3%	5.7%	5.5%	*6.0%*	*6.0%*	Return on Total Cap'l	*7.0%*
8.9%	8.5%	5.9%	7.9%	8.9%	9.2%	10.2%	10.3%	9.5%	8.7%	*9.5%*	*10.0%*	Return on Shr. Equity	*11.5%*
8.9%	8.5%	5.9%	7.9%	8.9%	9.2%	10.2%	10.3%	9.5%	8.7%	*9.5%*	*10.0%*	Return on Com Equity	*11.5%*
5.2%	4.8%	2.1%	4.1%	5.1%	5.3%	6.1%	6.1%	5.0%	4.0%	*4.0%*	*4.5%*	Retained to Com Eq	*5.5%*
42%	44%	63%	48%	43%	43%	40%	41%	47%	54%	*55%*	*53%*	All Div'ds to Net Prof	*52%*

CURRENT POSITION ($MILL.)	2014	2015	9/30/16
Cash Assets	39.6	36.0	85.2
Other	567.2	522.2	459.1
Current Assets	606.8	558.2	544.3
Accts Payable	168.0	164.9	138.8
Debt Due	24.2	37.5	49.5
Other	277.9	332.6	424.7
Current Liab.	470.1	535.0	613.0
Fix. Chg. Cov.	395%	401%	411%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	1.5%	1.5%	*5.0%*
"Cash Flow"	5.0%	6.5%	*6.5%*
Earnings	8.5%	10.0%	*7.0%*
Dividends	6.0%	9.0%	*8.5%*
Book Value	5.5%	5.5%	*4.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) D Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	613.5	411.6	387.3	538.4	1950.8
2014	608.4	453.2	432.5	627.7	2121.7
2015	734.2	538.6	505.4	685.4	2463.6
2016	731.2	547.7	540.0	*706.1*	*2525*
2017	*765*	*575*	*560*	*725*	*2625*

Cal-endar	EARNINGS PER SHARE A D Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	1.73	.22	d.06	1.22	3.11
2014	1.51	.21	.04	1.25	3.01
2015	1.53	.10	d.10	1.38	2.92
2016	1.58	.19	.05	*1.38*	*3.20*
2017	*1.68*	*.22*	*.10*	*1.50*	*3.50*

Cal-endar	QUARTERLY DIVIDENDS PAID B■† Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.265	.295	.295	.295	1.15
2013	.295	.330	.330	.330	1.29
2014	.330	.365	.365	.365	1.43
2015	.365	.405	.405	.405	1.58
2016	.405	.450	.450	.450	

BUSINESS: Southwest Gas Corporation is a regulated gas distributor serving approximately 2.0 million customers in sections of Arizona, Nevada, and California. Comprised of two business segments: natural gas operations and construction services. 2015 margin mix: residential and small commercial, 85%; large commercial and industrial, 4%; transportation, 11%. Total throughput: 2.1 billion therms. Has 5,876 employees. Officers & directors own 1.3% of common stock; BlackRock Inc., 9.6%; The Vanguard Group, Inc., 7.4%; GAMCO Investors, Inc., 6.4% (3/16 Proxy). Chairman: Michael J. Melarkey. Pres. & CEO: John Hester. Inc.: CA. Address: 5241 Spring Mountain Road, Las Vegas, Nevada 89193. Tel.: 702-876-7237. Internet: www.swgas.com.

Shares of Southwest Gas have come off a high-water mark in recent months. The company reported favorable comparisons for the September quarter. The construction services segment, Centuri, benefited from additional pipe replacement work with existing customers, incremental work from awarded bid contracts, and growth in the customer base. Earnings of $14.9 million here more than offset a net loss of $12.4 million at the natural gas operation due to seasonal factors. Nevertheless, the utility reported a lower deficit, thanks to positive returns on company-owned life insurance policies. Performance here was also supported by rate relief and customer additions. Looking forward, we expect that earnings per share will match the prior-year figure for the December quarter. For the full year, we look for healthy bottom-line improvement for Southwest Gas, on modest top-line gains.

Prospects appear favorable for the long term. The company's natural gas business ought to further benefit from customer growth, infrastructure tracker mechanisms, and expansion projects. Elsewhere, Centuri should continue to report solid performance. This business operates in 20 major markets in the United States and two major markets in Canada. Fundamentals appear solid here, considering the need to replace aging infrastructure. Centuri has a strong base of large utility clients to sustain and grow its operation. Many of these are multiyear pipe replacement programs.

The stock does not stand out at this time. The equity is ranked to perform in line with the broader market for the coming six to 12 months. Moreover, appreciation potential is subpar, as the shares are trading well within our Target Price Range. Though we anticipate healthy growth for the company in the coming years, the issue is currently trading at a premium valuation. The dividend yield is nothing special for a utility, either. However, it's worth mentioning that Southwest Gas earns favorable marks for Price Stability, Growth Persistence, and Earnings Predictability. A pullback in the share price may present conservative investors with a better entry point.

Michael Napoli, CFA *December 2, 2016*

(A) Diluted earnings. Excl. nonrec. gains (losses): '02, (10¢); '05, (11¢); '06, 7¢. Next egs. report due late February. (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	B++
Stock's Price Stability	90
Price Growth Persistence	90
Earnings Predictability	85

SPIRE INC. NYSE-SR

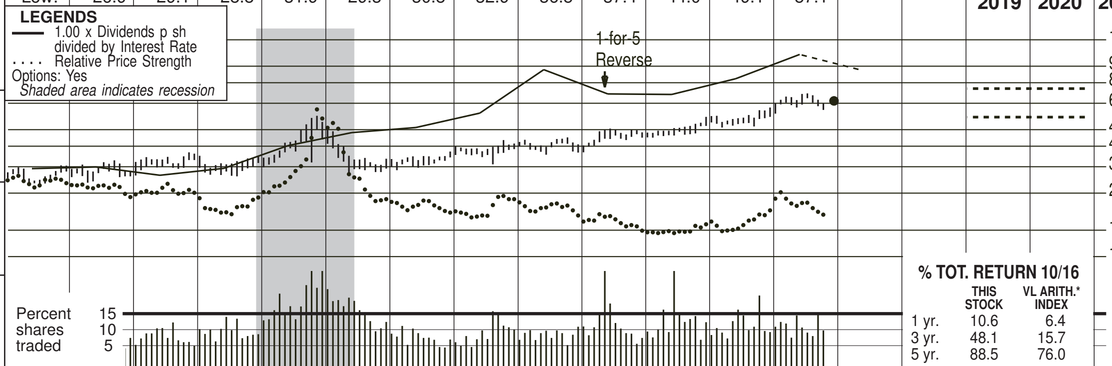
RECENT PRICE	P/E RATIO		RELATIVE P/E RATIO	DIV'D YLD	
65.60	18.8	(Trailing: 19.8 Median: 15.0)	0.98	3.2%	VALUE LINE

TIMELINESS	3	Lowered 8/12/16
SAFETY	2	Raised 6/20/03
TECHNICAL	3	Lowered 10/7/16

BETA .70 (1.00 = Market)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
High:	34.3	37.5	36.0	55.8	48.3	37.8	42.8	44.0	48.5	55.2	61.0	71.2
Low:	26.9	29.1	28.8	31.9	29.3	30.8	32.9	36.5	37.4	44.0	49.1	57.1

Target Price Range 2019 | 2020 | 2021



2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(+15%)	6%
Low	55	(-15%)	-1%

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	114	109	142
to Sell	86	104	83
Hld's(000)	34753	35632	36826

% TOT. RETURN 10/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	10.6	6.4
3 yr.	48.1	15.7
5 yr.	88.5	76.0

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
29.99	53.08	39.84	54.95	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	*40.45*	Revenues per sh A	*53.00*
2.68	3.00	2.56	3.15	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	*6.55*	"Cash Flow" per sh	*7.40*
1.37	1.61	1.18	1.82	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	*3.50*	Earnings per sh A B	*4.20*
1.34	1.34	1.34	1.34	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*	Div'ds Decl'd per sh C■	*2.30*
2.77	2.51	2.80	2.67	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	*6.90*	Cap'l Spending per sh	*7.10*
14.99	15.26	15.07	15.65	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	*40.65*	Book Value per sh D	*45.55*
18.88	18.88	18.96	19.11	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	*47.00*	Common Shs Outst'g E	*50.00*
14.9	14.5	20.0	13.6	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		Avg Ann'l P/E Ratio	*15.5*
.97	.74	1.09	.78	.83	.86	.73	.75	.86	.89	.87	.82	.92	1.20	1.04	.83	1.05		Relative P/E Ratio	*.95*
6.6%	5.7%	5.7%	5.4%	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%		Avg Ann'l Div'd Yield	*3.5%*

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
1997.6	2021.6	2209.0	1895.2	1735.0	1603.3	1125.5	1017.0	1627.2	1976.4	1537.3	*1900*	Revenues ($mill) A	*2650*
50.5	49.8	57.6	64.3	54.0	63.8	62.6	52.8	84.6	136.9	144.2	*165*	Net Profit ($mill)	*210*
32.5%	33.4%	31.3%	33.6%	33.4%	31.4%	29.6%	25.0%	27.6%	31.2%	32.5%	*28.0%*	Income Tax Rate	*30.0%*
2.5%	2.5%	2.6%	3.4%	3.1%	4.0%	5.6%	5.2%	5.2%	6.9%	9.4%	*8.7%*	Net Profit Margin	*7.9%*
49.5%	45.3%	44.4%	42.9%	40.5%	38.9%	36.1%	46.6%	55.1%	53.0%	50.9%	*50.0%*	Long-Term Debt Ratio	*50.0%*
50.4%	54.6%	55.5%	57.1%	59.5%	61.1%	63.9%	53.4%	44.9%	47.0%	49.1%	*50.0%*	Common Equity Ratio	*50.0%*
798.9	784.5	876.1	906.3	899.9	937.7	941.0	1959.0	3359.4	3345.1	3601.9	*3835*	Total Capital ($mill)	*4505*
763.8	793.8	823.2	855.9	884.1	928.7	1019.3	1776.6	2759.7	2941.2	3300.9	*3465*	Net Plant ($mill)	*4010*
8.4%	8.5%	8.1%	8.7%	7.4%	8.1%	7.9%	3.3%	3.1%	5.1%	4.9%	*5.0%*	Return on Total Cap'l	*5.5%*
12.5%	11.6%	11.8%	12.4%	10.1%	11.1%	10.4%	5.0%	5.6%	8.7%	8.2%	*8.5%*	Return on Shr. Equity	*9.0%*
12.5%	11.6%	11.8%	12.4%	10.1%	11.1%	10.4%	5.0%	5.6%	8.7%	8.2%	*8.5%*	Return on Com Equity	*9.0%*
5.1%	4.3%	5.2%	5.9%	3.6%	4.9%	4.3%	1.0%	1.5%	3.7%	3.3%	*3.5%*	Retained to Com Eq	*4.0%*
59%	63%	56%	53%	64%	56%	59%	81%	73%	58%	59%	*60%*	All Div'ds to Net Prof	*55%*

CAPITAL STRUCTURE as of 9/30/16
Total Debt $2482.4 mill. **Due in 5 Yrs** $400.0 mill.
LT Debt $1833.7 mill. **LT Interest** $70.0 mill.
(Total interest coverage: 3.7x)

Leases, Uncapitalized Annual rentals $11.0 mill.
Pension Assets-9/16 $540.5 mill.
Oblig. $724.5 mill.
Pfd Stock None
Common Stock 45,656,218 shs.
as of 11/11/16

MARKET CAP: $3.0 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2014	2015	9/30/16
Cash Assets	16.1	13.8	5.2
Other	588.8	516.3	564.4
Current Assets	604.9	530.1	569.6
Accts Payable	176.7	146.5	210.9
Debt Due	287.1	418.0	648.7
Other	319.0	289.3	301.7
Current Liab.	782.8	853.8	1161.3
Fix. Chg. Cov.	360%	365%	366%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '14-'16 to '19-'21
Revenues	-6.5%	-13.0%	*6.5%*
"Cash Flow"	5.5%	4.0%	*9.5%*
Earnings	3.5%	1.5%	*9.0%*
Dividends	3.0%	3.5%	*3.5%*
Book Value	7.5%	8.5%	*4.5%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.)A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2013	307.0	397.6	165.3	147.1	1017.0
2014	468.6	694.5	241.8	222.3	1627.2
2015	619.6	877.4	275.2	204.2	1976.4
2016	399.4	609.3	249.3	279.3	1537.3
2017	*475*	*775*	*250*	*400*	*1900*

Fiscal Year Ends	EARNINGS PER SHARE A B F Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2013	1.14	1.34	.25	d.30	2.02
2014	1.09	1.59	.33	d.35	2.35
2015	1.09	2.18	.32	d.43	3.16
2016	1.08	2.31	.24	d.31	3.24
2017	*1.20*	*2.30*	*.30*	*d.30*	*3.50*

Cal-endar	QUARTERLY DIVIDENDS PAID C ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.425	.425	.425	.425	1.70
2014	.44	.44	.44	.44	1.76
2015	.46	.46	.46	.46	1.84
2016	.49	.49	.49	.49	
2017	.525				

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. Has roughly 1.6 million customers. Acquired Missouri Gas 9/13, Alabama Gas Co 9/14. Utility therms sold and transported in fiscal 2016: 2.6 bill. Revenue mix for regulated operations: residential, 67%; commercial and industrial, 23%; transportation, 2%; other, 8%. Has around 3,078 employees. Officers and directors own 3.2% of common shares (1/16 proxy). Chairman: Edward Glotzbach; CEO: Suzanne Sitherwood. Inc.: Missouri. Address: 700 Market Street, St. Louis, Missouri 63101. Telephone: 314-342-0500. Internet: www.thelacledegroup.com.

Spire Inc. reported mixed fiscal fourth-quarter results (ended September 30th). Revenues were kept in check by lower commodity prices, and 20% warmer-than-usual weather during the period. But the total was supported by better gas marketing revenues and additional contributions from the MobileGas and Willmut Gas acquisitions. Overall, the company had better operational performance across the board, including strong results in its gas marketing division, which allowed for losses of $0.31 a share.

Near-term results will be driven by regulatory outcomes. Spire has filed for infrastructure replacement surcharges on its Laclede and Missouri Gas subsidiaries, which would boost results if approved. Too, changes in the utility regulatory environment in Missouri may change rate-making mechanisms. The company will file its next general rates cases in April, which could allow for better profitability. Those outcomes are uncertain, but we think the company will earn $3.50 a share in fiscal 2017.

The integrations of Willmut Gas and MobileGas are occurring. Completion of the purchases boosted utility incomes in Alabama and Mississippi. This deal could be earnings accretive sooner than fiscal 2018 thanks to the early accord completion, and cost synergies are expected to emerge shortly.

The build out of the STL pipeline remains on track. An environmental assessment and route refinements are being nailed down in anticipation of the January filing with FERC. This project should cost between $190 million and $210 million, and be put into service during fiscal 2019. As pipelines generally have higher allowable returns, we expect this would provide an ample boost to long-term results.

The company has raised the dividend 7% to $0.525 quarterly. This represents a decent bump in the payout, and should appeal to investors. This marks the 14th year in a row of dividend increases.

Shares of Spire Inc. do not stand out for Timeliness. Though they offer a decent yield and steady dividend growth, the shares offer little total return potential. Most investors would be best served waiting for a price dip.

John E. Seibert III *December 2, 2016*

(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 January. (C) Dividends historically paid in early January, April, July, and October. ■ Dividend reinvestment plan available. (D) Incl. deferred charges. In '14: $383.8 mill., $8.85/sh. (E) In millions. (F) Qtly. egs. may not sum due to rounding or change in shares outstanding in 2013, 2014, 2016.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	40
Earnings Predictability	80

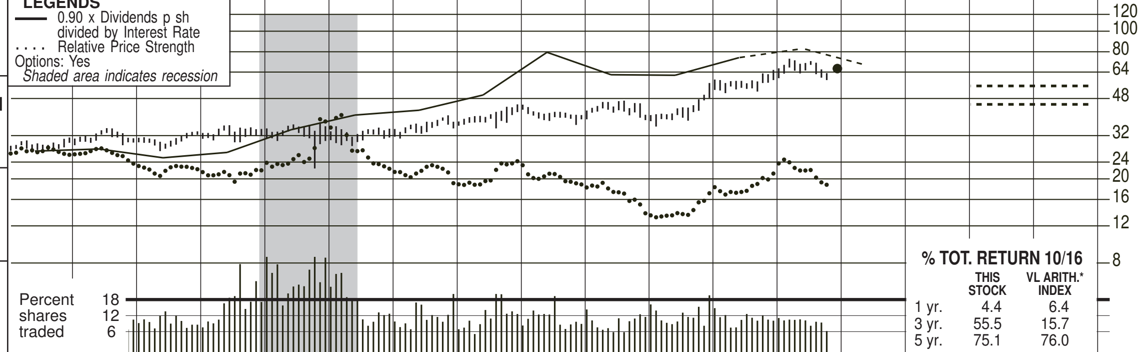
WGL HOLDINGS NYSE-WGL

RECENT PRICE **66.57** | P/E RATIO **19.8** (Trailing: 20.3 Median: 15.0) | RELATIVE P/E RATIO **1.04** | DIV'D YLD **2.9%** | **VALUE LINE**

TIMELINESS 3 Lowered 11/25/16
SAFETY 1 Raised 4/2/93
TECHNICAL 3 Lowered 10/28/16
BETA .75 (1.00 = Market)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
High:	34.8	33.6	35.9	37.1	35.5	40.0	45.0	45.0	47.0	56.8	65.6	74.1
Low:	28.8	27.0	29.8	22.4	28.6	31.0	34.7	36.0	38.0	35.4	50.9	58.7

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



Target Price Range

2019	2020	2021

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	55	(-15%)	*-1%*
Low	45	(-30%)	*-5%*

Insider Decisions

	J	F	M	A	M	J	J	A	S
to Buy	0	0	0	0	0	0	0	0	0
Options	9	0	0	0	0	0	0	0	0
to Sell	0	1	2	0	1	0	0	0	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	123	126	123
to Sell	106	121	106
Hld's(000)	33248	34219	34930

% TOT. RETURN 10/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	4.4	6.4
3 yr.	55.5	15.7
5 yr.	75.1	76.0

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
22.19	29.80	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	*46.55*	*51.90*	Revenues per sh A	*53.65*
3.20	3.24	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	*5.50*	*5.70*	"Cash Flow" per sh	*6.00*
1.79	1.88	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	*3.40*	Earnings per sh B	*3.30*
1.24	1.26	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	*1.99*	Div'ds Decl'd per sh C■	*2.05*
2.67	2.68	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	*16.35*	*17.30*	Cap'l Spending per sh	*19.10*
15.31	16.24	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	*27.00*	*29.00*	Book Value per sh D	*34.60*
46.47	48.54	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	*51.00*	*52.00*	Common Shs Outst'g E	*55.00*
14.6	14.7	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		Avg Ann'l P/E Ratio	*15.0*
.95	.75	1.26	.63	.75	.78	.84	.83	.82	.84	.96	1.07	.97	1.02	.80	.86	1.10		Relative P/E Ratio	*.95*
4.8%	4.6%	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		Avg Ann'l Div'd Yield	*4.1%*
						2637.9	2646.0	2628.2	2706.9	2708.9	2751.5	2425.3	2466.1	2780.9	2659.8	2349.6	*2700*	Revenues ($mill) A	*2950*
						96.0	102.9	122.9	128.7	115.0	115.5	138.4	119.7	139.0	158.2	*155*	*175*	Net Profit ($mill)	*185*
						39.0%	39.1%	37.1%	39.1%	38.7%	42.4%	40.1%	30.2%	29.0%	39.9%	*39.0%*	*39.0%*	Income Tax Rate	*39.0%*
						3.6%	3.9%	4.7%	4.8%	4.2%	4.2%	5.7%	4.9%	5.0%	5.9%	*6.6%*	*6.5%*	Net Profit Margin	*6.2%*
						37.8%	37.9%	35.9%	33.3%	33.4%	32.3%	31.2%	28.7%	34.8%	42.6%	*41.5%*	*41.5%*	Long-Term Debt Ratio	*43.5%*
						60.4%	60.3%	62.4%	65.0%	65.0%	66.2%	67.3%	69.8%	63.8%	56.1%	*57.5%*	*57.0%*	Common Equity Ratio	*55.5%*
						1526.1	1625.4	1679.5	1687.7	1774.4	1818.1	1886.9	1826.8	1954.0	2215.6	*2405*	*2635*	Total Capital ($mill)	*3430*
						2067.9	2150.4	2208.3	2269.1	2346.2	2489.9	2667.4	2907.5	3314.4	3672.7	*4070*	*4510*	Net Plant ($mill)	*6135*
						7.6%	7.6%	8.5%	8.8%	7.6%	7.5%	8.3%	7.5%	8.1%	8.3%	*8.0%*	*7.5%*	Return on Total Cap'l	*7.0%*
						10.1%	10.2%	11.4%	11.4%	9.7%	9.4%	10.7%	9.2%	10.9%	12.4%	*11.5%*	*11.0%*	Return on Shr. Equity	*9.5%*
						10.3%	10.4%	11.6%	11.6%	9.9%	9.5%	10.8%	9.3%	11.0%	12.6%	*11.5%*	*11.0%*	Return on Com Equity	*9.5%*
						3.2%	3.5%	5.0%	5.0%	3.3%	3.4%	4.8%	2.6%	4.3%	5.4%	*4.0%*	*4.5%*	Retained to Com Eq	*3.5%*
						69%	66%	57%	57%	67%	64%	56%	72%	62%	58%	*63%*	*61%*	All Div'ds to Net Prof	*62%*

CAPITAL STRUCTURE as of 6/30/16
Total Debt $1552.6 mill. **Due in 5 Yrs** $329.3 mill.
LT Debt $1194.3 mill. **LT Interest** $50.5 mill.
(LT interest earned: 6.2x; total interest coverage: 5.7x) (45% of Total Capital)
Pension Assets-9/15 $1,218.7 mill. **Oblig.** $1,218.7 mill.
Preferred Stock $28.2 mill. **Pfd. Div'd** $1.3 mill.

Common Stock 51,059,773 shs. **as of 7/31/16**

MARKET CAP: $3.4 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2014	2015	6/30/16
Cash Assets	8.8	6.7	16.5
Other	826.7	774.7	804.1
Current Assets	835.5	781.4	820.6
Accts Payable	313.2	325.1	333.2
Debt Due	473.5	357.0	358.3
Other	233.6	300.8	303.4
Current Liab.	1020.3	982.9	994.9
Fix. Chg. Cov.	535%	535%	535%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	1.5%	-.5%	*0.5%*
"Cash Flow"	2.0%	2.5%	*3.5%*
Earnings	2.5%	2.5%	*3.5%*
Dividends	3.0%	3.5%	*2.5%*
Book Value	4.0%	2.5%	*6.0%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2013	686.7	891.4	478.1	409.9	2466.1
2014	680.5	1174.0	467.5	458.9	2780.9
2015	749.2	1001.7	441.2	467.7	2659.8
2016	613.4	835.7	440.6	459.9	2349.6
2017	*695*	*915*	*520*	*570*	*2700*

Fiscal Year Ends	EARNINGS PER SHARE A B Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2013	1.14	1.75	d.03	d.55	2.31
2014	.99	1.84	.02	d.17	2.68
2015	1.16	2.02	.22	d.23	3.16
2016	1.18	1.78	.33	d.01	3.27
2017	*1.21*	*1.81*	*.36*	*.02*	*3.40*

Cal-endar	QUARTERLY DIVIDENDS PAID C ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.39	.40	.40	.40	1.59
2013	.40	.42	.42	.42	1.66
2014	.42	.44	.44	.44	1.74
2015	.44	.463	.463	.463	1.83
2016	.463	.488	.488	.488	

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 (1,129,865 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 natural 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, Inc. owns 8.7% of common stock; Off./dir. less than 1% (1/16 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.

Shares of WGL Holdings are trading modestly higher in price since our September review. Indeed, the stock registered a gain of approximately 3%-5% over that time frame. In comparison, the S&P 500 Index was basically unchanged for this same period, logging an advance of roughly 0.5%.

Meanwhile, the company's fourth-quarter and fiscal-year (ended September 30th) financial results lined up with our expectations. On the downside, annual revenues fell 11.7%, to $2.349 billion. This reflected a downturn in utility and nonutility volumes of 19.9% and 3.8%, respectively. However, we view this apparent weakness in the regulated utility business as more of technicality, owing to the year-over-year decline in natural gas prices. On the profitability front, overall expenses declined 300 basis points, as a percentage of the top line. All told, these factors sent the bottom line 3.5% higher, to $3.27 a share. This was modestly above our earlier call of $3.10 for the year.

We have increased our outlook for fiscal 2017 accordingly. In fact, we added a dime to our earnings estimate, to $3.40 a share. This falls broadly in line with management's recently issued guidance range of $3.30-$3.50. WGL Holdings ought to benefit from continued additions of active customer meters. Over the course of fiscal 2016, the company increased its number of meters by 12,500. We look for similar growth to continue in 2017 and beyond. At the same time, management has been quite successful at identifying attractive capital growth projects needed to boost its geographic footprint in the D.C. region, and overall system throughput. On the downside, the Constitution Pipeline continues to be delayed as WGL works through some red tape with the NY State Department of Environmental Conservation.

At the recent quotation, we think most investors' funds could be better utilized elsewhere. The stock is ranked to just mirror the broader market averages in the coming year. And at this price point, it is trading above our Target Price Range, thus suggesting that it lacks appreciation potential for the pull to 2019-2021.

Bryan J. Fong *December 2, 2016*

(A) Fiscal years end Sept. 30th.
(B) Based on diluted shares. Excludes nonrecurring losses: '01, (13¢); '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 Jan. (C) Dividends historically paid early February, May, August, and November. ■ Dividend reinvestment plan available.
(D) Includes deferred charges and intangibles. '15: $705.8 million, $14.18/sh.
(E) In millions.

Company's Financial Strength	A
Stock's Price Stability	90
Price Growth Persistence	55
Earnings Predictability	75

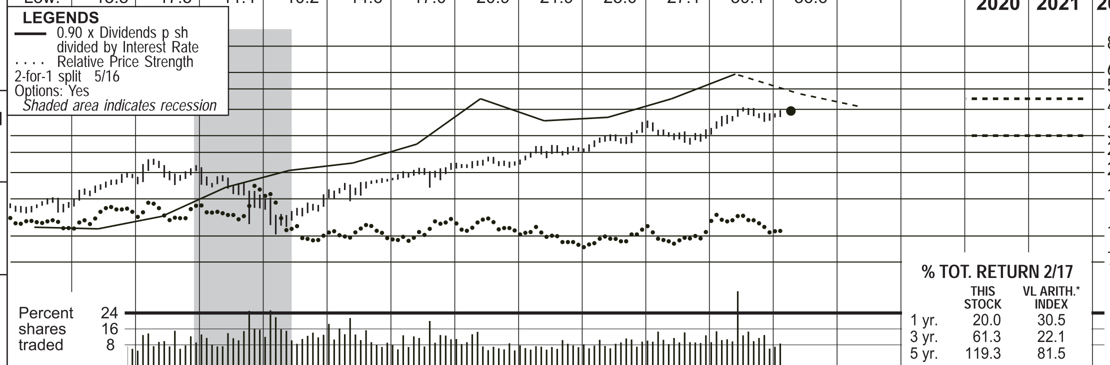
ALLIANT ENERGY NYSE-LNT

RECENT PRICE **39.28** | P/E RATIO **20.0** (Trailing: 23.8 / Median: 15.0) | RELATIVE P/E RATIO **1.03** | DIV'D YLD **3.2%** | VALUE LINE

TIMELINESS **3** Lowered 11/18/16
SAFETY **2** Raised 9/28/07
TECHNICAL **3** Lowered 2/17/17
BETA .70 (1.00 = Market)

High:	20.0	23.3	21.2	15.8	18.8	22.2	23.8	27.1	34.9	35.4	41.0	39.6
Low:	13.8	17.5	11.4	10.2	14.6	17.0	20.9	21.9	25.0	27.1	30.4	36.6

Target Price Range 2020 | 2021 | 2022



2020-22 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(+15%)	7%
Low	30	(-25%)	-2%

Insider Decisions

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

Institutional Decisions

	2Q2016	3Q2016	4Q2016
to Buy	421	194	192
to Sell	47	198	196
Hld's(000)	149878	150673	152516

% TOT. RETURN 2/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	20.0	30.5
3 yr.	61.3	22.1
5 yr.	119.3	81.5

Alliant Energy, formerly called Interstate Energy Corporation, was formed on April 21, 1998 through the merger of WPL Holdings, IES Industries, and Interstate Power. WPL stockholders received one share of Interstate Energy stock for each WPL share, IES stockholders received 1.14 Interstate Energy shares for each IES share, and Interstate Power stockholders received 1.11 Interstate Energy shares for each Interstate Power share.

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
15.57	16.67	15.51	15.40	16.51	13.94	14.77	15.10	14.34	14.58	*15.20*	*15.50*	Revenues per sh	*17.15*
2.56	2.28	2.10	2.60	2.75	2.95	3.34	3.44	3.45	3.45	*4.00*	*4.15*	"Cash Flow" per sh	*5.00*
1.35	1.27	.95	1.38	1.38	1.53	1.65	1.74	1.69	1.65	*2.00*	*2.12*	Earnings per sh A	*2.50*
.64	.70	.75	.79	.85	.90	.94	1.02	1.10	1.18	*1.26*	*1.34*	Div'd Decl'd per sh B ■ †	*1.58*
2.46	3.98	5.43	3.91	3.03	5.22	3.32	3.78	4.25	5.26	*6.10*	*6.25*	Cap'l Spending per sh	*5.30*
12.15	12.78	12.54	13.05	13.57	14.12	14.79	15.54	16.41	16.96	*17.45*	*17.95*	Book Value per sh C	*19.05*
220.72	220.90	221.31	221.79	222.04	221.97	221.89	221.87	226.92	227.67	*230.00*	*232.00*	Common Shs Outst'g D	*236.00*
15.1	13.4	13.9	12.5	14.5	14.5	15.3	16.6	18.1	22.3	*Bold figures are*		Avg Ann'l P/E Ratio	*15.0*
.80	.81	.93	.80	.91	.92	.86	.87	.91	1.13	*Value Line*		Relative P/E Ratio	*.95*
3.1%	4.1%	5.7%	4.6%	4.3%	4.1%	3.7%	3.5%	3.6%	3.2%	*estimates*		Avg Ann'l Div'd Yield	*4.2%*
3437.6	3681.7	3432.8	3416.1	3665.3	3094.5	3276.8	3350.3	3253.6	3320.0	*3500*	*3600*	Revenues ($mill)	*4050*
320.8	280.0	208.6	303.9	304.4	337.8	382.1	385.5	380.7	373.8	*460*	*490*	Net Profit ($mill)	*590*
44.4%	33.4%	--	30.1%	19.0%	21.5%	12.4%	10.1%	15.3%	13.4%	*15.0%*	*15.0%*	Income Tax Rate	*15.0%*
2.4%	--	--	--	--	--	--	6.5%	6.5%	*7.0%*	*7.0%*	*7.0%*	AFUDC % to Net Profit	*7.0%*
32.4%	36.3%	44.3%	46.3%	45.7%	48.4%	46.1%	49.7%	48.6%	*50.0%*	*50.0%*	*50.0%*	Long-Term Debt Ratio	*50.0%*
61.9%	58.6%	51.2%	49.5%	50.9%	48.4%	50.8%	47.5%	51.4%	*48.0%*	*48.0%*	*48.0%*	Common Equity Ratio	*48.0%*
4329.5	4815.6	5423.0	5840.8	5921.2	6476.6	6461.0	7257.2	7246.3	*7600*	*7800*	*7900*	Total Capital ($mill)	*8400*
4679.9	5353.5	6203.0	6730.6	7037.1	7838.0	7147.3	6442.0	8970.2	*9700*	*10000*	*10100*	Net Plant ($mill)	*11000*
8.6%	7.0%	5.1%	6.6%	6.4%	6.3%	7.0%	5.3%	6.3%	*5.0%*	*5.0%*	*5.5%*	Return on Total Cap'l	*7.0%*
11.0%	9.1%	6.9%	9.7%	9.5%	10.1%	11.0%	10.6%	10.2%	9.7%	*11.5%*	*12.0%*	Return on Shr. Equity	*13.0%*
11.3%	9.3%	6.8%	9.9%	9.5%	10.3%	11.3%	10.9%	10.2%	9.7%	*11.5%*	*12.0%*	Return on Com Equity E	*13.0%*
5.9%	3.8%	.9%	3.8%	3.3%	3.9%	4.9%	4.3%	3.6%	2.8%	*4.0%*	*4.5%*	Retained to Com Eq	*5.0%*
50%	62%	88%	64%	67%	64%	57%	59%	65%	72%	*63%*	*63%*	All Div'ds to Net Prof	*63%*

CAPITAL STRUCTURE as of 12/31/16
Total Debt $4320.2 mill. **Due in 5 Yrs** $1500.0 mill.
LT Debt $4315.6 mill. **LT Interest** $200.0 mill.
(LT interest earned: 3.2x)

Pension Assets-12/16 $895.7 mill. **Oblig.** $1244.3 mill.
Pfd Stock $400.0 mill. **Pfd Div'd** $10.2 mill.
16,000,000 shs.

Common Stock 227,673,654 shs.
Adjusted for 2-for-1 split 4/20/16

MARKET CAP: $8.9 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2014	2015	2016
% Change Retail Sales (KWH)	+.1	-.1	+2.0
Avg. Indust. Use (MWH)	11821	11735	11987
Avg. Indust. Revs. per KWH (¢)	6.85	6.92	7.04
Capacity at Peak (Mw)	5426	5385	5615
Peak Load, Summer (Mw)	5426	5385	5615
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.4	+.3	+1.0
Fixed Charge Cov. (%)	320	325	342

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '20-'22
Revenues	1.0%	-1.5%	*4.0%*
"Cash Flow"	3.5%	8.0%	*6.0%*
Earnings	6.0%	7.0%	*6.0%*
Dividends	7.0%	6.5%	*4.5%*
Book Value	4.0%	4.0%	*4.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	952.8	750.3	843.1	804.1	3350.3
2015	897.4	717.2	898.9	740.1	3253.6
2016	843.8	754.2	924.6	797.4	3320.0
2017	*860*	*785*	*975*	*880*	*3500*
2018	*880*	*810*	*1005*	*905*	*3600*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	.49	.28	.70	.27	1.74
2015	.44	.30	.80	.15	1.69
2016	.43	.37	.57	.28	1.65
2017	*.44*	*.36*	*.88*	*.32*	*2.00*
2018	*.47*	*.38*	*.92*	*.35*	*2.12*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■† Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.235	.235	.235	.235	.94
2014	.255	.255	.255	.255	1.02
2015	.275	.275	.275	.275	1.10
2016	.295	.295	.295	.295	1.18
2017	.315				

BUSINESS: Alliant Energy Corp., formerly named Interstate Energy, is a holding company formed through the merger of WPL Holdings, IES Industries, and Interstate Power. Supplies electricity, gas, and other services in Wisconsin, Iowa, and Minnesota. Elect. revs. by state: WI, 44%; IA, 55%; MN, 1%. Elect. rev.: residential, 35%; commercial, 25%; industrial, 29%; wholesale, 9%; other, 2%. Fuel sources, 2016: coal, 44%; gas, 21%; other, 35%. Fuel costs: 49% of revs. 2016 depreciation rate: 5.9%. Estimated plant age: 14 years. Has approximately 4,000 employees. Chairman & Chief Executive Officer: Patricia L. Kampling. Incorporated: Wisconsin. Address: 4902 N. Biltmore Lane, Madison, Wisconsin 53718. Telephone: 608-458-3311. Internet: www.alliantenergy.com.

The Public Service Commission of Wisconsin has approved a rate increase for Alliant Energy's main utility subsidiary. Electric and natural gas rates for Wisconsin Power and Light will rise by approximately $19 million in 2017 and 2018. The order was based on a return of 10% on a common-equity ratio of 52%. The utility will use the additional revenue to enhance system reliability and help pay for pollution controls at its coal-fired plants. Alliant also expects to file a rate case with the Iowa Utilities Board in the second quarter. In 2014, the IUB approved a regulatory settlement worth $105 million (paid via customer billing credits over three years) for Interstate Power and Light. With the arrangement set to expire at the end of this year, LNT will likely ask for relief in the form of rate increases to help offset the reduction in the credits.

The company has made significant progress in the field of renewable energy. At the end of 2016, Alliant was generating about 1,200 megawatts of renewable energy across three different states. The utility has plans to invest $1 billion over the next five years to expand a farm in Iowa that would add an additional 500 megawatts of wind power to its portfolio. The project is part of management's vision to reduce carbon emissions by 40% from 2005 to 2030. LNT has also pledged to ramp up investments in solar energy over the coming years as technology improves and costs come down.

The board of directors raised the dividend in January. The increase was $0.02 a share (6.8%) quarterly, as we had expected. Alliant is targeting a payout ratio in the range of 60%-70%.

Alliant increased its projected capital expenditures. The company plans to spend $5.56 billion on capex over the next four years, up from its previous outlook of $5.36 billion. The largest increase will come in 2019 when the Riverside Energy Center and Iowa wind farm expansions are completed.

This good-quality issue has a decent dividend yield and above-average growth prospects for a utility. That said, with the recent quotation well within our 2020-2022 Target Price Range, total return potential is subpar.

Daniel Henigson *March 17, 2017*

(A) Diluted EPS. Excl. nonrecur. gains (losses): '07, 55¢; '08, 4¢; '09, (44¢); '10, (8¢); '11, (1¢); '12, (8¢). Next earnings report due early May. (B) Dividends historically paid in mid-Feb., May, Aug., and Nov. ■ Div'd reinvest. plan avail. † Shareholder invest. plan avail. (C) Incl. deferred chgs. In '16: $22.6 mill., $0.10/sh. (D) In millions, adjusted for split. (E) Rate base: Orig. cost. Rates all'd on com. eq. in IA in '16: 10.5%; in WI in '16 Regul. Clim.: WI, Above Avg.; IA, Avg.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	95
Earnings Predictability	80

AMEREN NYSE-AEE

RECENT PRICE 54.82 | P/E RATIO 20.1 (Trailing: 20.4 Median: 15.0) | RELATIVE P/E RATIO 1.03 | DIV'D YLD 3.3% | VALUE LINE

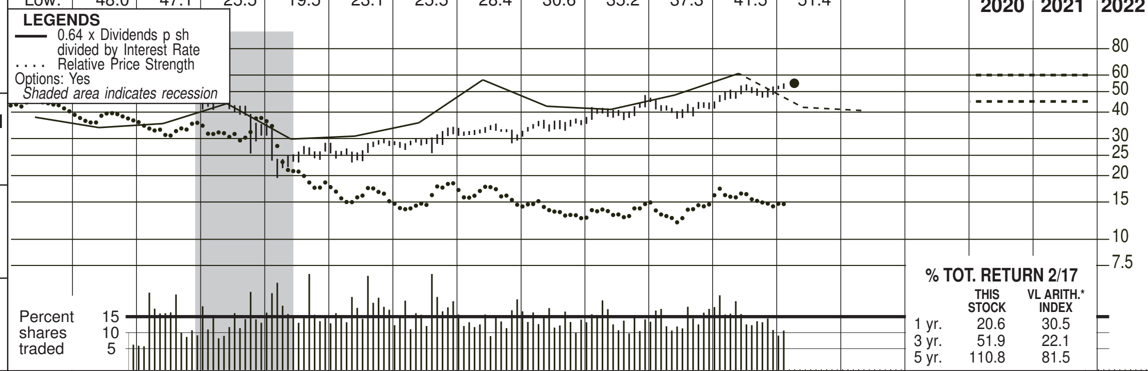
TIMELINESS 3 Lowered 8/19/16

SAFETY 2 Raised 6/20/14

TECHNICAL 4 Lowered 3/17/17

BETA .70 (1.00 = Market)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
High:	55.2	55.0	54.3	35.3	29.9	34.1	35.3	37.3	48.1	46.8	54.1	55.5
Low:	48.0	47.1	25.5	19.5	23.1	25.5	28.4	30.6	35.2	37.3	41.5	51.4



2020-22 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	60	(+10%)	*6%*
Low	45	(-20%)	*-1%*

Insider Decisions

	M	J	J	A	S	O	N	D	J
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	0	0	0	10
to Sell	0	2	0	1	1	0	1	0	1

Institutional Decisions

	2Q2016	3Q2016	4Q2016
to Buy	246	200	222
to Sell	166	205	228
Hld's(000)	162780	162586	169889

% TOT. RETURN 2/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	20.6	30.5
3 yr.	51.9	22.1
5 yr.	110.8	81.5

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
32.64	24.93	28.20	26.43	33.12	33.30	36.23	36.92	29.87	31.77	31.04	28.14	24.06	24.95	25.13	25.04	***25.75***	***26.60***	Revenues per sh	***29.00***
6.33	5.28	6.29	5.57	6.10	6.02	6.76	6.44	6.06	6.33	5.87	5.87	5.25	5.77	6.08	6.59	***7.05***	***7.55***	"Cash Flow" per sh	***9.25***
3.41	2.66	3.14	2.82	3.13	2.66	2.98	2.88	2.78	2.77	2.47	2.41	2.10	2.40	2.38	2.68	***2.80***	***3.00***	Earnings per sh A	***3.50***
2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	1.54	1.54	1.56	1.60	1.60	1.61	1.66	1.72	***1.78***	***1.84***	Div'd Decl'd per sh B ■	***2.15***
7.99	5.11	4.19	4.13	4.63	4.99	6.96	9.75	7.51	4.66	4.50	5.49	5.87	7.66	8.12	8.78	***9.15***	***9.30***	Cap'l Spending per sh	***9.75***
24.26	24.93	26.73	29.71	31.09	31.86	32.41	32.80	33.08	32.15	32.64	27.27	26.97	27.67	28.63	29.27	***30.30***	***31.50***	Book Value per sh C	***35.50***
138.05	154.10	162.90	195.20	204.70	206.60	208.30	212.30	237.40	240.40	242.60	242.63	242.63	242.63	242.63	242.63	***242.63***	***242.63***	Common Shs Outst'g D	***242.63***
12.1	15.8	13.5	16.3	16.7	19.4	17.4	14.2	9.3	9.7	11.9	13.4	16.5	16.7	17.5	18.3	*Bold figures are*		Avg Ann'l P/E Ratio	***14.5***
.62	.86	.77	.86	.89	1.05	.92	.85	.62	.62	.75	.85	.93	.88	.88	.96	*Value Line*		Relative P/E Ratio	***.90***
6.2%	6.1%	6.0%	5.5%	4.9%	4.9%	4.9%	6.2%	6.0%	5.8%	5.3%	5.0%	4.6%	4.0%	4.0%	3.5%	*estimates*		Avg Ann'l Div'd Yield	***4.2%***

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		20-22
7546.0	7839.0	7090.0	7638.0	7531.0	6828.0	5838.0	6053.0	6098.0	6076.0	***6250***	***6450***	Revenues ($mill)	***7050***
629.0	615.0	624.0	669.0	602.0	589.0	518.0	593.0	585.0	659.0	***690***	***740***	Net Profit ($mill)	***865***
33.5%	33.7%	34.7%	36.8%	37.3%	36.9%	37.5%	38.9%	38.3%	36.7%	***38.0%***	***38.0%***	Income Tax Rate	***38.0%***
.8%	4.6%	5.8%	7.8%	5.6%	6.1%	7.1%	5.7%	5.1%	4.1%	***4.0%***	***4.0%***	AFUDC % to Net Profit	***3.0%***
45.0%	47.8%	49.7%	48.2%	45.3%	49.5%	45.2%	47.2%	49.3%	47.7%	***47.5%***	***48.0%***	Long-Term Debt Ratio	***48.5%***
53.4%	50.8%	49.1%	50.9%	53.7%	49.4%	53.7%	51.7%	49.7%	51.3%	***51.5%***	***51.0%***	Common Equity Ratio	***50.5%***
12654	13712	15991	15185	14738	13384	12190	12975	13968	13840	***14250***	***14975***	Total Capital ($mill)	***17000***
15069	16567	17610	17853	18127	16096	16205	17424	18799	20113	***21325***	***22475***	Net Plant ($mill)	***25700***
6.2%	5.7%	5.3%	6.0%	5.6%	6.0%	5.6%	5.8%	5.3%	6.0%	***6.0%***	***6.0%***	Return on Total Cap'l	***6.5%***
9.0%	8.6%	7.8%	8.5%	7.5%	8.7%	7.7%	8.7%	8.3%	9.1%	***9.0%***	***9.5%***	Return on Shr. Equity	***10.0%***
9.2%	8.7%	7.8%	8.6%	7.5%	8.8%	7.8%	8.7%	8.3%	9.2%	***9.5%***	***9.5%***	Return on Com Equity E	***10.0%***
1.3%	1.0%	3.5%	3.8%	2.8%	3.0%	1.9%	2.9%	2.5%	3.3%	***3.5%***	***4.0%***	Retained to Com Eq	***4.0%***
86%	88%	56%	56%	63%	66%	76%	67%	70%	64%	***63%***	***61%***	All Div'ds to Net Prof	***61%***

CAPITAL STRUCTURE as of 12/31/16
Total Debt $7834 mill. **Due in 5 Yrs** $3110 mill.
LT Debt $6595 mill. **LT Interest** $330 mill.
(LT interest earned: 4.0x)
Leases, Uncapitalized Annual rentals $6 mill.
Pension Assets-12/16 $3813 mill. **Oblig** $4518 mill.
Pfd Stock $142 mill. **Pfd Div'd** $6 mill.
807,595 sh. $3.50 to $5.50 cum. (no par), $100 stated val., redeem. $102.176-$110/sh.; 616,323 sh. 4.00% to 6.625%, $100 par, redeem. $100-$104/sh.
Common Stock 242,634,798 shs. **as of 1/31/17**
MARKET CAP: $13 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2014	2015	2016
% Change Retail Sales (KWH)	-.1	-1.1	-4.2
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	5.46	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	355	343	351

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '14-'16 to '20-'22
Revenues	-2.0%	-4.0%	*2.5%*
"Cash Flow"	.5%	- -	*7.0%*
Earnings	-1.5%	-1.5%	*6.0%*
Dividends	-4.0%	1.5%	*4.5%*
Book Value	-1.0%	-2.5%	*3.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	1594	1419	1670	1370	6053.0
2015	1556	1401	1833	1308	6098.0
2016	1434	1427	1859	1356	6076.0
2017	***1500***	***1450***	***1900***	***1400***	***6250***
2018	***1550***	***1500***	***1950***	***1450***	***6450***

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	.40	.62	1.20	.19	2.40
2015	.45	.40	1.41	.12	2.38
2016	.43	.61	1.52	.13	2.68
2017	***.45***	***.65***	***1.50***	***.20***	***2.80***
2018	***.50***	***.70***	***1.55***	***.25***	***3.00***

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.40	.40	.40	.40	1.60
2014	.40	.40	.40	.41	1.61
2015	.41	.41	.41	.425	1.66
2016	.425	.425	.425	.44	1.72
2017					

BUSINESS: Ameren Corporation is a holding company formed through the merger of Union Electric and CIPSCO. Acq'd CILCORP 1/03; Illinois Power 10/04. Has 1.2 mill. electric and 127,000 gas customers in Missouri; 1.2 mill. electric and 813,000 gas customers in Illinois. Discontinued nonregulated power-generation operation in '13. Electric rev. breakdown: residential, 45%; commercial, 33%; industrial, 12%; other, 10%. Generating sources: coal, 66%; nuclear, 23%; hydro, 3%; purchased & other, 8%. Fuel costs: 28% of revs. '16 reported deprec. rates: 3%-4%. Has 8,600 employees. Chairman, President & CEO: Warner L. Baxter. Inc.: MO. Address: One Ameren Plaza, 1901 Chouteau Ave., P.O. Box 66149, St. Louis, MO 63166-6149. Tel.: 314-621-3222. Internet: www.ameren.com.

Ameren has reached a settlement of its electric rate case in Missouri. The agreement, if approved by the Missouri commission, would raise rates by $92 million. It would also remove the negative effect of a reduction in electric sales to an aluminum smelter. Certain regulatory tracking mechanisms would continue. This is a "black box" settlement in which an allowed return on equity and common-equity ratio are not specified. The agreement calls for new tariffs to take effect no later than March 20, 2017.

We estimate that earnings will advance nearly 5% in 2017. The earnings comparison is made tougher by the favorable weather conditions that boosted profits by $0.08 a share in 2016. We assume normal weather conditions in our estimates. Ameren should benefit from a partial year of rate relief in Missouri. In addition, its operations in Illinois and its federally regulated transmission business have forward-looking rate plans that lift the company's earning power each year. Our earnings estimate of $2.80 a share is within Ameren's guidance of $2.65-$2.85.

We forecast further profit growth in 2018. Ameren will have a full year's worth of the rate hike in Missouri and additional revenues from the formula rate plans. In addition, there will be no refueling outage for the Callaway nuclear unit next year. Our $3.00-a-share earnings estimate would produce a growth rate within Ameren's goal of 5%-8% annually.

The regulatory structure in Missouri isn't as supportive as that in Illinois and that of the Federal Energy Regulatory Commission (FERC). This is why Ameren is directing the majority of its capital spending toward its Illinois utilities and its FERC-regulated electric transmission business. Missouri uses a historical test year, which results in regulatory lag for the state's utilities. Legislative action is being sought to improve this situation, but similar efforts in recent years have been unsuccessful.

Neither the dividend yield of Ameren stock nor its 3- to 5-year total return potential stand out among utility issues. Like many utility equities, the recent quotation is well within our 2020-2022 Target Price Range.

Paul E. Debbas, CFA *March 17, 2017*

(A) Diluted EPS. Excl. nonrecur. gain (losses): '05, (11¢); '10, ($2.19); '11, (32¢); '12, ($6.42); gain (loss) from disc. ops.: '13, (92¢); '15, 21¢. '14 & '16 EPS don't sum due to rounding. Next egs. report due early May. (B) Div'ds histor. paid in late Mar., June, Sept., & Dec. ■ Div'd reinvest. plan avail. (C) Incl. intang. In '16: $7.62/sh. (D) In mill. (E) Rate base: Orig. cost depr. Rate all'd on com. eq. in MO in '15: elec., 9.53%; in '11: gas, none specified; in IL in '14: elec., 8.7%, in '16: gas, 9.6%; earned on avg. com. eq., '16: 9.3%. Reg. Climate: Below Avg.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	25
Earnings Predictability	85

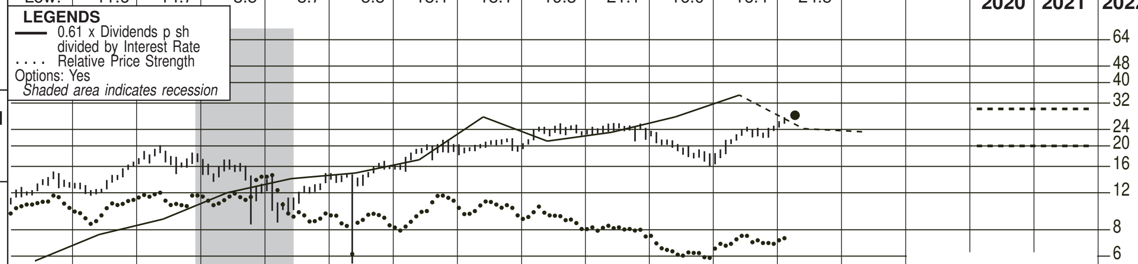
CENTERPOINT EN'RGY NYSE-CNP

RECENT PRICE **28.00** | P/E RATIO **23.1** (Trailing: 28.3 / Median: 15.0) | RELATIVE P/E RATIO **1.18** | DIV'D YLD **3.9%** | VALUE LINE

High:	16.9	20.2	17.3	14.9	17.0	21.5	21.8	25.7	25.8	23.7	25.0	28.1
Low:	11.6	14.7	8.5	8.7	5.5	15.1	18.1	19.3	21.1	16.0	16.4	24.5

TIMELINESS 3 Lowered 3/17/17
SAFETY 3 Lowered 12/18/15
TECHNICAL 3 Lowered 12/30/16
BETA .85 (1.00 = Market)

Target Price Range 2020 | 2021 | 2022



2020-22 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	30	(+5%)	6%
Low	20	(-30%)	-3%

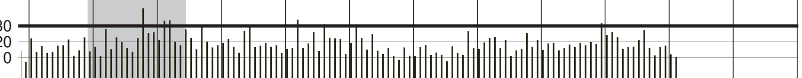
Insider Decisions

	M	J	J	A	S	O	N	D	J
to Buy	0	0	0	0	0	0	0	0	0
Options	7	0	0	0	0	0	0	0	0
to Sell	1	0	0	0	0	0	1	0	0

Institutional Decisions

	2Q2016	3Q2016	4Q2016
to Buy	250	246	265
to Sell	186	183	212
Hld's(000)	333863	318487	323268

Percent shares traded 30 20 10



% TOT. RETURN 2/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	53.3	30.5
3 yr.	32.7	22.1
5 yr.	73.7	81.5

2001[A]	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
35.18	26.40	31.87	27.63	31.33	29.71	29.82	32.71	21.14	20.69	19.83	17.43	18.90	21.51	17.18	17.48	*18.00*	*18.55*	Revenues per sh	*20.25*
3.69	3.34	3.98	2.56	2.72	3.47	3.39	3.42	2.94	3.14	3.43	3.89	3.54	3.85	3.40	3.68	*4.05*	*4.25*	"Cash Flow" per sh	*4.75*
1.54	1.29	1.37	.61	.67	1.33	1.17	1.30	1.01	1.07	1.27	1.35	1.24	1.42	1.08	1.00	*1.30*	*1.40*	Earnings per sh [B]	*1.65*
1.50	1.07	.40	.40	.40	.60	.68	.73	.76	.78	.79	.81	.83	.95	.99	1.03	*1.07*	*1.11*	Div'd Decl'd per sh [C] ■	*1.23*
6.78	2.85	2.11	1.72	2.23	3.21	3.45	2.95	2.96	3.55	3.06	2.84	3.00	3.20	3.68	3.28	*3.50*	*3.30*	Cap'l Spending per sh	*3.00*
22.24	4.74	5.75	3.59	4.18	4.96	5.61	5.89	6.74	7.53	9.91	10.06	10.09	10.60	8.05	8.03	*8.25*	*8.55*	Book Value per sh [D]	*9.75*
302.94	300.10	306.30	308.05	310.33	313.65	322.72	346.09	391.75	424.70	426.03	427.44	429.00	429.00	430.00	430.68	*431.00*	*431.00*	Common Shs Outst'g [E]	*435.00*
--	5.6	6.0	17.8	19.1	10.3	15.0	11.3	11.8	13.8	14.6	14.8	18.7	17.0	18.1	21.9	*Bold figures are*	*Value Line*	Avg Ann'l P/E Ratio	*16.0*
--	.31	.34	.94	1.02	.56	.80	.68	.79	.88	.92	.94	1.05	.89	.91	1.15	*estimates*		Relative P/E Ratio	*1.00*
--	14.8%	4.8%	3.7%	3.1%	4.4%	3.9%	5.0%	6.4%	5.3%	4.3%	4.0%	3.6%	3.9%	5.1%	4.7%			Avg Ann'l Div'd Yield	*4.7%*

CAPITAL STRUCTURE as of 12/31/16
Total Debt $8478 mill. **Due in 5 Yrs** $5029 mill.
LT Debt $7532 mill. **LT Interest** $373 mill.
Incl. $1931 mill. securitized transition & system restoration bonds.
(LT interest earned: 2.6x)
Leases, Uncapitalized Annual rentals $5 mill.
Pension Assets-12/16 $1656 mill. **Oblig** $2197 mill.

Pfd Stock None
Common Stock 430,688,867 shs.
as of 2/10/17
MARKET CAP: $12 billion (Large Cap)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		20-22
9623.0	11322	8281.0	8785.0	8450.0	7452.0	8106.0	9226.0	7386.0	7528.0	*7750*	*8000*	Revenues ($mill)	*8800*
399.0	447.0	372.0	442.0	546.0	581.0	536.0	611.0	465.0	432.0	*560*	*605*	Net Profit ($mill)	*720*
32.8%	38.3%	32.1%	37.3%	33.6%	33.4%	31.4%	31.0%	35.1%	37.0%	*36.0%*	*36.0%*	Income Tax Rate	*36.0%*
5.5%	2.7%	1.3%	2.7%	1.6%	2.6%	3.5%	4.1%	4.7%	3.5%	*4.0%*	*4.0%*	AFUDC % to Net Profit	*3.0%*
82.2%	83.3%	77.6%	73.8%	67.2%	66.0%	64.4%	63.8%	69.5%	68.5%	*67.5%*	*67.0%*	Long-Term Debt Ratio	*65.5%*
17.8%	16.7%	22.4%	26.2%	32.8%	34.0%	35.6%	36.2%	30.5%	31.5%	*32.5%*	*33.0%*	Common Equity Ratio	*34.5%*
10174	12218	11758	12199	12863	12658	12146	12557	11362	10992	*11000*	*11225*	Total Capital ($mill)	*12400*
9740.0	10296	10788	11732	12402	13597	9593.0	10502	11537	12307	*12875*	*13325*	Net Plant ($mill)	*14100*
6.9%	6.0%	5.8%	6.1%	6.4%	6.8%	6.3%	6.7%	6.1%	5.8%	*7.0%*	*7.0%*	Return on Total Cap'l	*7.5%*
22.0%	21.9%	14.1%	13.8%	12.9%	13.5%	12.4%	13.4%	13.4%	12.5%	*15.5%*	*16.5%*	Return on Shr. Equity	*17.0%*
22.0%	21.9%	14.1%	13.8%	12.9%	13.5%	12.4%	13.4%	13.4%	12.5%	*15.5%*	*16.5%*	Return on Com Equity [F]	*17.0%*
10.0%	9.9%	3.6%	3.8%	5.0%	5.5%	4.2%	4.5%	1.1%	NMF	*3.0%*	*3.5%*	Retained to Com Eq	*4.5%*
55%	55%	74%	72%	62%	60%	66%	67%	92%	103%	*82%*	*79%*	All Div'ds to Net Prof	*74%*

ELECTRIC OPERATING STATISTICS

	2014	2015	2016
% Change Retail Sales (KWH)	+2.3	+2.9	+3.1
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (avg.)	+2.4	+2.1	+2.3
Fixed Charge Cov. (%)	194	200	219

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '14-'16 to '20-'22
Revenues	-4.5%	-2.0%	*1.5%*
"Cash Flow"	2.5%	3.0%	*4.5%*
Earnings	3.0%	1.0%	*6.0%*
Dividends	8.0%	5.0%	*3.5%*
Book Value	7.5%	2.0%	*1.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2014	3163	1884	1807	2372	9226.0
2015	2433	1532	1630	1791	7386.0
2016	1984	1574	1889	2081	7528.0
2017	*2200*	*1650*	*1750*	*2150*	*7750*
2018	*2300*	*1700*	*1800*	*2200*	*8000*

Cal-endar	EARNINGS PER SHARE [B] Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2014	.43	.25	.33	.41	1.42
2015	.30	.18	.34	.26	1.08
2016	.36	d.01	.41	.23	1.00
2017	*.36*	*.22*	*.40*	*.32*	*1.30*
2018	*.39*	*.23*	*.43*	*.35*	*1.40*

Cal-endar	QUARTERLY DIVIDENDS PAID [C] ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.207	.207	.207	.207	.83
2014	.237	.237	.238	.238	.95
2015	.247	.247	.248	.248	.99
2016	.258	.258	.258	.258	1.03
2017	.268				

BUSINESS: CenterPoint Energy, Inc. is a holding company for Houston Electric, which serves 2.4 million customers in Houston and environs, and gas utilities with 3.4 million customers in Texas, Minnesota, Arkansas, Louisiana, and Oklahoma. Owns 55.4% of Enable Midstream Partners. Discontinued Texas Genco Holdings in '04. Electric revenue breakdown: residential, 52%; commercial, 31%; industrial, 15%; other, 2%. Does not own generating assets. Gas costs: 39% of revenues. '16 depreciation rate: 6.5%. Has 7,700 employees. Chairman: Milton Carroll. President & CEO: Scott M. Prochazka. Incorporated: Texas. Address: 1111 Louisiana, P.O. Box 4567, Houston, Texas 77210-4567. Telephone: 713-207-1111. Internet: www.centerpointenergy.com.

CenterPoint Energy still hasn't decided what to do with its 55.4% stake in Enable Midstream Partners. CenterPoint is concerned about the volatility associated with its interest in Enable, a natural gas master limited partnership. The company prefers the relative stability of its regulated electric and gas utilities and its retail energy-services operations. A straightforward sale of this stake would result in a large tax liability. Another option is a spinoff. Or CenterPoint can work with Enable management to reduce the MLP's exposure to commodity prices. Management now expects to announce a decision by the time it reports second-quarter results, probably in early August.

Earnings are likely to advance materially this year. The comparison is easy, as profits in 2016 were hurt by mark-to-market accounting charges amounting to $0.16 a share. (We *include* these in our earnings presentation because they are an ongoing part of CenterPoint's results.) Still, the company is benefiting from rate relief, customer growth (2% for electricity and 1% for gas), and its expanding retail energy-services subsidiary. The latter operation made significant acquisitions in 2016 and early 2017. In addition, we look for a greater contribution from CenterPoint's interest in Enable, as our figures are based on the company's current configuration. Our earnings estimate is within management's targeted range of $1.25-$1.33 a share. We forecast more-modest, but still solid, profit growth in 2018, based on the same factors that should help results this year.

The board of directors raised the dividend in early 2017. The increase was a cent a share (3.9%) quarterly. CenterPoint can maintain a high payout ratio thanks to the distributions it receives from its stake in Enable.

The price of CenterPoint stock has risen 14% so far this year. We think the improving prospects of Enable have helped; note that OGE Energy, another owner of Enable, has climbed 10% in 2017. The dividend yield is a cut above the utility mean. With the recent quotation near the upper end of our 2020-2022 Target Price Range, total return potential is minuscule.

Paul E. Debbas, CFA *March 17, 2017*

(A) Pro forma data. (B) Diluted EPS. Excl. extraordinary gains (losses): '04, ($2.72); '05, 9¢; '11, $1.89; '12, (38¢) net; '13, (52¢); '15, ($2.69); losses on disc. ops.: '04, 37¢; '05, 1¢. '16 EPS don't sum due to rounding. Next earnings report due early May. (C) Div'ds historically paid in early Mar., June, Sept. & Dec. ■ Div'd reinvestment plan avail. (D) Incl. intang. In '16: $8.22/sh. (E) In mill. (F) Rate base: Net original cost. Rate allowed on com. eq. (elec.) in '11: 10%; (gas): 9.45%-11.25%; earned on avg. com. eq., '16: 12.4%%. Regulat. Climate: Avg.

Company's Financial Strength	B+
Stock's Price Stability	90
Price Growth Persistence	50
Earnings Predictability	85

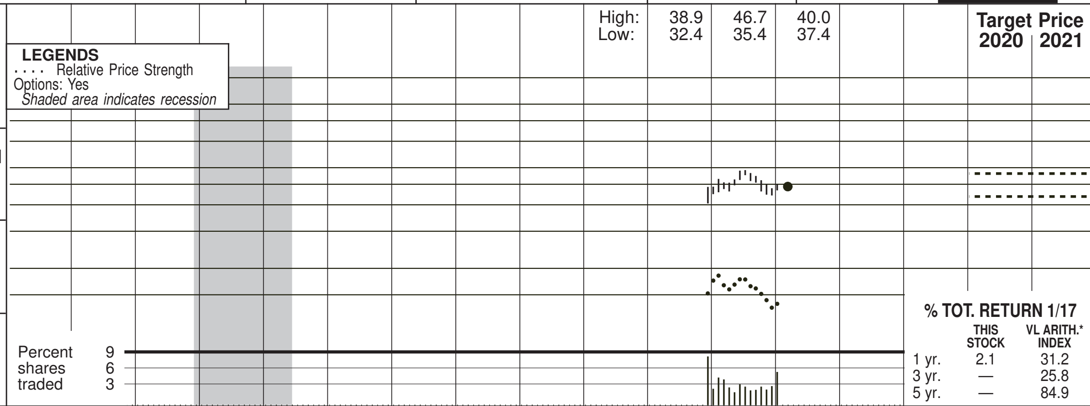
AVANGRID, INC. NYSE-AGR

RECENT PRICE	P/E RATIO		RELATIVE P/E RATIO	DIV'D YLD	
39.03	18.2	(Trailing: 24.2, Median: NMF)	0.94	4.4%	VALUE LINE

TIMELINESS –
SAFETY 2 Raised 2/17/17
TECHNICAL –
BETA NMF (1.00 = Market)

	2015	2016	2017
High:	38.9	46.7	40.0
Low:	32.4	35.4	37.4

Target Price Range 2020 | 2021 | 2022



2020-22 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(+15%)	8%
Low	35	(-10%)	2%

Insider Decisions

	A	M	J	J	A	S	O	N	D
to Buy	0	1	0	0	1	1	1	3	1
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	99	98	110
to Sell	81	77	86
Hld's(000)	40830	39675	38903

% TOT. RETURN 1/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	2.1	31.2
3 yr.	—	25.8
5 yr.	—	84.9

AVANGRID, Inc. was formed through a merger between Iberdrola USA, Inc. and UIL Holdings Corporation in December of 2015. Iberdrola S.A., a worldwide leader in the energy industry, owns 81.5% of AVANGRID. The predecessor company was founded in 1852 and is headquartered in New Gloucester, Maine. It was incorportated in 1997 in New York under the name NGE Resources, Inc. AVANGRID began trading on the NYSE on December 17, 2015.

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
- -	- -	- -	- -	- -	- -	- -	- -	14.14	19.75	20.40	21.05	Revenues per sh	23.60
- -	- -	- -	- -	- -	- -	- -	- -	3.44	5.20	5.55	5.85	"Cash Flow" per sh	6.50
- -	- -	- -	- -	- -	- -	- -	- -	.86	1.95	2.15	2.25	Earnings per sh A	2.75
- -	- -	- -	- -	- -	- -	- -	- -	- -	1.73	1.73	1.73	Div'd Decl'd per sh B ■	1.85
- -	- -	- -	- -	- -	- -	- -	- -	3.50	6.45	6.45	6.45	Cap'l Spending per sh	5.75
- -	- -	- -	- -	- -	- -	- -	- -	48.74	49.00	49.40	49.95	Book Value per sh C	52.25
- -	- -	- -	- -	- -	- -	- -	- -	308.86	309.00	309.00	309.00	Common Shs Outst'g D	309.00
- -	- -	- -	- -	- -	- -	- -	- -	NMF	20.8	Bold figures are		Avg Ann'l P/E Ratio	14.5
- -	- -	- -	- -	- -	- -	- -	- -	NMF	1.10	Value Line		Relative P/E Ratio	.90
- -	- -	- -	- -	- -	- -	- -	- -	- -	4.3%	estimates		Avg Ann'l Div'd Yield	4.7%
- -	- -	- -	- -	- -	- -	- -	4594.0	4367.0	6100	6300	6500	Revenues ($mill)	7250
- -	- -	- -	- -	- -	- -	- -	424.0	267.0	600	660	705	Net Profit ($mill)	840
- -	- -	- -	- -	- -	- -	- -	39.9%	11.3%	41.0%	33.0%	33.0%	Income Tax Rate	33.0%
- -	- -	- -	- -	- -	- -	- -	6.8%	12.7%	6.0%	5.0%	5.0%	AFUDC % to Net Profit	5.0%
- -	- -	- -	- -	- -	- -	- -	16.8%	23.1%	24.0%	25.0%	25.5%	Long-Term Debt Ratio	24.5%
- -	- -	- -	- -	- -	- -	- -	83.2%	76.9%	76.0%	75.0%	74.5%	Common Equity Ratio	75.5%
- -	- -	- -	- -	- -	- -	- -	14956	19583	19875	20325	20650	Total Capital ($mill)	21500
- -	- -	- -	- -	- -	- -	- -	17099	20711	21700	22650	23550	Net Plant ($mill)	25500
- -	- -	- -	- -	- -	- -	- -	3.7%	2.1%	3.5%	4.0%	4.0%	Return on Total Cap'l	4.5%
- -	- -	- -	- -	- -	- -	- -	3.4%	1.8%	4.0%	4.5%	4.5%	Return on Shr. Equity	5.0%
- -	- -	- -	- -	- -	- -	- -	3.4%	1.8%	4.0%	4.5%	4.5%	Return on Com Equity E	5.0%
- -	- -	- -	- -	- -	- -	- -	3.4%	1.8%	.5%	1.0%	1.0%	Retained to Com Eq	1.5%
- -	- -	- -	- -	- -	- -	- -	- -	- -	89%	81%	76%	All Div'ds to Net Prof	68%

CAPITAL STRUCTURE as of 9/30/16
Total Debt $4586 mill. **Due in 5 Yrs** $1748 mill.
LT Debt $4399 mill. **LT Interest** $216 mill.
(LT interest earned: 3.6x)

Leases, Uncapitalized Annual rentals $216 mill.

Pension Assets-12/15 $1991 mill. **Oblig** $2491 mill.

Pfd Stock None

Common Stock 309,003,589 shs.
as of 11/2/16
MARKET CAP: $12 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	NA	NA	NA
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	NA	347	183

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '20-'22
Revenues	- -	- -	NMF
"Cash Flow"	- -	- -	NMF
Earnings	- -	- -	NMF
Dividends	- -	- -	NMF
Book Value	- -	- -	NMF

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	1556	938	982	1118	4594
2015	1227	939	1048	1153	4367
2016	1670	1439	1418	1573	6100
2017	1800	1450	1450	1600	6300
2018	1850	1500	1500	1650	6500

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	- -	- -	- -	- -	- -
2015	.34	.04	.17	.31	.86
2016	.63	.33	.35	.64	1.95
2017	.80	.35	.35	.65	2.15
2018	.85	.35	.35	.70	2.25

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	- -	- -	- -	- -	- -
2014	- -	- -	- -	- -	- -
2015	- -	- -	- -	- -	- -
2016	- -	.432	.432	.432	1.73
2017	.432				

BUSINESS: AVANGRID, Inc., formerly Iberdrola USA, Inc., is a diversified energy and utility company that serves 2.2 million electric customers in New York, Connecticut, and Maine and 1 million gas customers in New York, Connecticut, Massachusetts and Maine. Has a nonregulated generating subsidiary focused on wind power. Revenue breakdown by customer class not available. Generating sources not available. Fuel costs: 22% of revenues. '15 reported depreciation rate not available. Iberdrola owns 81.5% of stock. Has 7,000 employees. Chairman: José Ignacio Sanchez Galan. CEO: James P. Torgerson. Incorporated: New York. Address: 157 Church Street, New Haven, Connecticut 06506. Telephone: 207-688-6363. Internet: www.avangrid.com.

AVANGRID's electric utility subsidiary in Connecticut has received a rate order. At the start of 2017, United Illuminating received a $43.0 million rate hike, based on a 9.1% return on a 50% common-equity ratio. The utility will receive additional increases of $11.5 million and $2.9 million at the start of 2018 and 2019, respectively.

We expect strong earnings growth in 2017, followed by a decent increase next year. Rate relief is helping the regulated utility business. Besides the aforementioned electric tariff hike in Connecticut, AVANGRID's utilities in New York, New York State Electric and Gas and Rochester Gas and Electric, were granted three-year rate increases that took effect in May of 2016. Thus, they will have a full year of rate relief in 2017. We assume normal weather after unfavorable wind conditions hurt the nonregulated side of the business in the first half of 2016. These operations should benefit from the additions of wind and solar projects. This segment has about 5,700 megawatts of capacity now, and 810 mw are under construction.

Finances are sound. The fixed-charge coverage was unusually low in 2015, a year of depressed earnings, but probably improved significantly in 2016. The common-equity ratio is, by far, the highest of any company in this industry, and AVANGRID has no need for additional equity through the early part of the next decade — at least. AVANGRID is not paying cash taxes, so our "cash flow" figures understate its true cash flow. We have raised the company's Financial Strength rating from B+ to B++ and its stock's Safety rank from 3 to 2 (Above Average).

This stock offers a dividend yield that is about a percentage point above the utility mean. This valuation reflects, in part, a lack of near-term dividend growth potential as AVANGRID strives to reduce its payout ratio to a range of 65%-75%. Total return potential to 2020-2022 is only average for the group. The stock is unranked for Timeliness due to its short trading history since Iberdrola USA acquired UIL Holdings in December of 2015 and became AVANGRID.

Paul E. Debbas, CFA *February 17, 2017*

(A) Diluted EPS. 2015 EPS based on shares outstanding at yearend. Excl. nonrecurring gain: '16, 6¢. Next earnings report due late February. (B) Div'ds paid in early Jan., April, July, and Oct. ■ Dividend reinvestment plan available. (C) Incl. intangibles. In '15: $22.62/sh. (D) In mill. (E) Rate base: net orig. cost. Rate allowed on com. eq. in NY in '16: 9.0%; in CT in '17: 9.1% elec.; in CT in '16: 9.36% gas; in ME in '14: 9.45%. Regulatory Climate: Below Average.

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

AVISTA CORP. NYSE-AVA

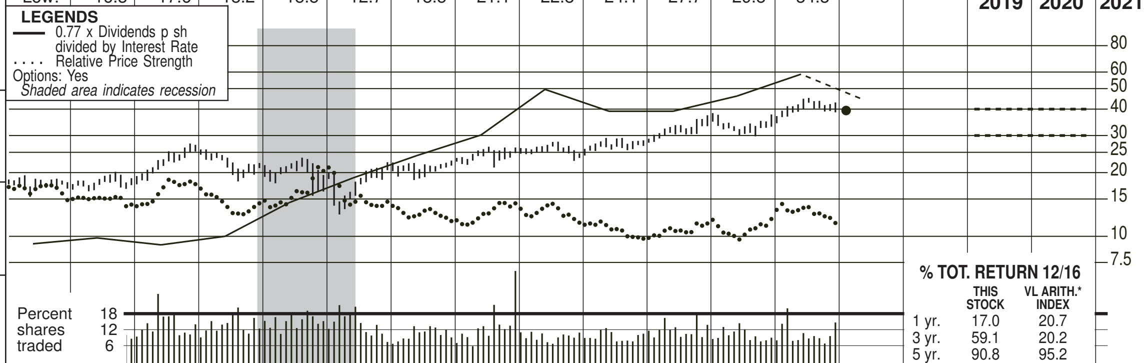
RECENT PRICE	39.43	P/E RATIO	19.9 (Trailing: 19.2 / Median: 16.0)	RELATIVE P/E RATIO	1.01	DIV'D YLD	3.5%	VALUE LINE

TIMELINESS 3 Raised 12/30/16
SAFETY 2 Raised 5/7/10
TECHNICAL 2 Raised 1/20/17
BETA .70 (1.00 = Market)

High:	20.2	27.5	25.8	23.6	22.4	22.8	26.5	28.0	29.3	37.4	38.3	45.2
Low:	16.3	17.6	18.2	15.5	12.7	18.5	21.1	22.8	24.1	27.7	29.8	34.3

Target Price Range 2019 | 2020 | 2021

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



2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	40	(Nil)	*4%*
Low	30	(-25%)	*-2%*

Insider Decisions

	M	A	M	J	J	A	S	O	N
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	8	0	0	1	9	0	0
to Sell	4	0	6	4	0	2	1	0	0

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	139	118	119
to Sell	84	104	101
Hld's(000)	42375	43564	44354

Percent shares traded 18 12 6

% TOT. RETURN 12/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	17.0	20.7
3 yr.	59.1	20.2
5 yr.	90.8	95.2

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
167.59	126.17	20.41	23.24	23.76	27.98	28.68	26.80	30.77	27.58	27.29	27.73	25.86	26.94	23.66	23.83	*22.10*	*21.90*	Revenues per sh	*23.75*
3.31	2.71	2.19	2.63	2.35	2.72	4.27	2.93	3.98	4.45	3.62	3.78	3.70	4.36	4.36	4.92	*4.90*	*5.00*	"Cash Flow" per sh	*5.75*
1.76	1.20	.67	1.02	.73	.92	1.47	.72	1.36	1.58	1.65	1.72	1.32	1.85	1.84	1.89	*2.05*	*1.95*	Earnings per sh A	*2.25*
.48	.48	.48	.48	.49	.52	.55	.57	.60	.69	.81	1.00	1.10	1.16	1.22	1.27	1.32	*1.37*	Div'd Decl'd per sh B ■	*1.50*
4.24	5.92	1.74	2.21	2.47	3.23	3.14	4.04	4.09	3.86	3.64	4.20	4.61	5.05	5.47	6.46	*6.25*	*6.60*	Cap'l Spending per sh	*6.75*
15.34	15.12	14.84	15.54	15.54	15.87	17.46	17.27	18.30	19.17	19.71	20.30	21.06	21.61	23.84	24.53	*25.55*	*26.10*	Book Value per sh C	*28.00*
47.21	47.63	48.04	48.34	48.47	48.59	52.51	52.91	54.49	54.84	57.12	58.42	59.81	60.08	62.24	62.31	*64.50*	*65.00*	Common Shs Outst'g D	*66.50*
13.6	13.7	19.3	13.8	24.4	19.4	15.4	30.9	15.0	11.4	12.7	14.1	19.3	14.6	17.3	17.6	*19.7*		Avg Ann'l P/E Ratio	*15.5*
.88	.70	1.05	.79	1.29	1.03	.83	1.64	.90	.76	.81	.88	1.23	.82	.91	.89	*1.05*		Relative P/E Ratio	*.95*
2.0%	2.9%	3.7%	3.5%	2.9%	3.0%	2.5%	2.7%	3.4%	4.5%	4.8%	4.5%	4.6%	4.5%	4.0%	4.0%	3.4%		Avg Ann'l Div'd Yield	*4.3%*

CAPITAL STRUCTURE as of 9/30/16
Total Debt $1817.1 mill. **Due in 5 Yrs** $606.7 mill.
LT Debt $1729.8 mill. **LT Interest** $83.9 mill.
Incl. $51.5 mill. debt to affiliated trusts.
(LT interest earned: 3.4x)

Pension Assets-12/15 $517.2 mill. **Oblig.** $613.5 mill.

Pfd Stock None

Common Stock 64,184,399 shs. as of 10/28/16

MARKET CAP: $2.5 billion (Mid Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
1506.3	1417.8	1676.8	1512.6	1558.7	1619.8	1547.0	1618.5	1472.6	1484.8	*1425*	*1425*	Revenues ($mill)	*1575*
75.1	38.5	73.6	87.1	92.4	100.2	78.2	111.1	114.2	118.1	*130*	*130*	Net Profit ($mill)	*145*
35.9%	38.7%	38.3%	34.3%	35.0%	35.4%	34.4%	36.0%	37.6%	36.3%	*36.5%*	*36.5%*	Income Tax Rate	*36.5%*
3.9%	22.4%	14.0%	4.2%	4.0%	5.2%	8.3%	8.8%	11.1%	10.1%	*9.0%*	*9.0%*	AFUDC % to Net Profit	*8.0%*
53.7%	41.0%	48.1%	50.9%	51.6%	51.4%	50.8%	51.4%	51.0%	50.0%	*51.0%*	*48.5%*	Long-Term Debt Ratio	*51.0%*
46.3%	59.0%	51.9%	49.1%	48.4%	48.6%	49.2%	48.6%	49.0%	50.0%	*49.0%*	*51.5%*	Common Equity Ratio	*49.0%*
1980.1	1548.9	1919.5	2139.0	2325.3	2439.9	2561.2	2669.7	3027.3	3060.3	*3355*	*3280*	Total Capital ($mill)	*3775*
2215.0	2351.3	2492.2	2607.0	2714.2	2860.8	3023.7	3202.4	3620.0	3898.6	*4115*	*4350*	Net Plant ($mill)	*5000*
6.1%	5.2%	5.8%	5.5%	5.4%	5.5%	4.3%	5.4%	4.9%	5.1%	*5.0%*	*5.0%*	Return on Total Cap'l	*5.0%*
8.2%	4.2%	7.4%	8.3%	8.2%	8.5%	6.2%	8.6%	7.7%	7.7%	*8.0%*	*7.5%*	Return on Shr. Equity	*8.0%*
8.0%	4.2%	7.4%	8.3%	8.2%	8.5%	6.2%	8.6%	7.7%	7.7%	*8.0%*	*7.5%*	Return on Com Equity E	*8.0%*
4.9%	.8%	3.7%	4.1%	3.3%	3.1%	.8%	2.9%	2.4%	2.3%	*2.5%*	*2.5%*	Retained to Com Eq	*2.5%*
40%	82%	50%	51%	60%	64%	88%	66%	69%	70%	*67%*	*69%*	All Div'ds to Net Prof	*69%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+.4	+.8	-2.0
Avg. Indust. Use (MWH)	1428	1349	1339
Avg. Indust. Revs. per KWH (¢)	5.74	5.93	6.17
Capacity at Peak (Mw)	2767	2594	NA
Peak Load, Winter (Mw)	2223	2223	NA
Annual Load Factor (%)	59.0	64.0	NA
% Change Customers (yr-end)	+1.1	+5.5	+1.3
Fixed Charge Cov. (%)	308	322	315

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	- -	-3.0%	*-.5%*
"Cash Flow"	6.0%	2.5%	*4.0%*
Earnings	7.5%	4.0%	*3.0%*
Dividends	9.5%	9.0%	*3.0%*
Book Value	4.0%	4.0%	*3.0%*

QUARTERLY REVENUES ($ mill.)

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	482.9	352.0	335.9	447.7	1618.5
2014	446.6	312.6	301.6	411.8	1472.6
2015	446.5	337.3	313.7	387.3	1484.8
2016	418.2	318.8	303.3	*384.7*	*1425*
2017	*420*	*315*	*305*	*385*	*1425*

EARNINGS PER SHARE A

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.71	.43	.19	.53	1.85
2014	.79	.43	.16	.48	1.84
2015	.74	.40	.21	.54	1.89
2016	.89	.43	.19	*.54*	*2.05*
2017	*.85*	*.40*	*.15*	*.55*	*1.95*

QUARTERLY DIVIDENDS PAID B ■

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.305	.305	.305	.305	1.22
2014	.3175	.3175	.3175	.3175	1.27
2015	.33	.33	.33	.33	1.32
2016	.3425	.3425	.3425	.3425	1.37
2017					

BUSINESS: Avista Corporation (formerly The Washington Water Power Company) supplies electricity & gas in eastern Washington & northern Idaho. Supplies electricity to part of Alaska & gas to part of Oregon. Customers: 392,000 electric, 335,000 gas. Acq'd Alaska Electric Light and Power 7/14. Sold Ecova energy-management sub. 6/14. Electric rev. breakdown: residential, 34%; commercial, 31%; industrial, 11%; wholesale, 13%; other, 11%. Generating sources: gas & coal, 32%; hydro, 28%; purchased, 40%. Fuel costs: 44% of revs. '15 reported deprec. rate (Avista): 3.1%. Has 1,900 employees. Chairman, President & CEO: Scott L. Morris. Inc.: WA. Address: 1411 E. Mission Ave., Spokane, WA 99202-2600. Tel.: 509-489-0500. Web: www.avistacorp.com.

Avista was "extremely disappointed" by the rate decision it received in Washington in December. That is how management described the order from the Washington Utilities and Transportation Commission (WUTC), which denied the utility's request for electric and gas rate increases. Avista had filed for electric and gas tariff hikes for 2017 of $38.6 million and $4.4 million, respectively, followed by smaller increases at the start of 2018. The WUTC's ruling was surprising, given that its staff had recommended raises of $25.6 million for electricity and $2.1 million for gas. The company has asked the WUTC for reconsideration and a rehearing. If this is fruitless, Avista may appeal this matter to the courts.

The lack of rate relief in Washington will hurt 2017 earnings by an estimated $0.20-$0.30 a share. We have lowered our estimate by $0.20 a share, to $1.95. We will adjust our estimate if Avista winds up getting some rate relief in Washington.

Will this affect the board's decision about the dividend? In recent years, the directors have raised the disbursement in the first quarter. We now estimate no dividend hike due to the regulatory problems, but we don't rule one out.

Avista was granted an electric rate increase in Idaho. The raise was $6.3 million (2.5%), based on a 9.5% return on a 50% common-equity ratio. New tariffs took effect at the start of 2017.

Rate cases are pending in Alaska and Oregon. Alaska Electric Light & Power filed for an increase of $2.8 million (8.1%), based on a 13.8% return on a 58% common-equity ratio. (The cost-of-capital figures are high due to the utility's risks of operating in Juneau.) An interim hike of $1.3 million (3.9%) took effect on November 23rd. The final order is expected in late 2017. In Oregon, Avista is seeking a gas rate boost of $8.5 million (9%), based on a 9.9% return on a 50% common-equity ratio. New tariffs are expected to take effect on October 1st.

We think this stock lacks investor appeal. The recent price does not adequately reflect the regulatory uncertainty, in our view. Moreover, 3- to 5-year total return potential is low.

Paul E. Debbas, CFA *January 27, 2017*

(A) Dil. EPS. Excl. nonrec. gain (losses): '02, (9¢); '03, (3¢); '14, 9¢; gains (losses) on disc. ops.: '01, ($1.00); '02, 2¢; '03, (10¢); '14, $1.17; '16, 8¢. '13 & '14 EPS don't add due to rounding or change in shs. Next earnings report due late Feb. (B) Div'ds paid in mid-Mar., June, Sept. & Dec. ■ Div'd reinv. avail. (C) Incl. def'd chgs. In '15: $9.89/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate all'd on com. eq. in WA in '16: 9.5%; in ID in '17: 9.5%; in OR in '15: 9.5%; earn. on avg. com. eq., '15: 8.2%. Regul. Clim.: WA, Avg.; ID, Above Avg.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	60
Earnings Predictability	75

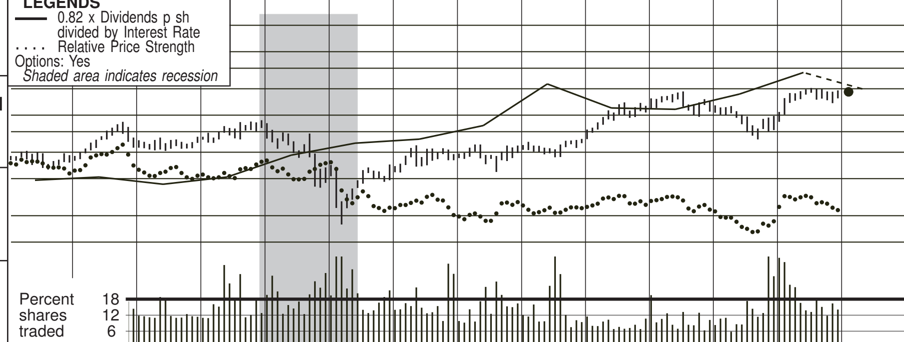
BLACK HILLS CORP. NYSE-BKH

RECENT PRICE 61.73 | P/E RATIO 19.0 (Trailing: 27.0 / Median: 17.0) | RELATIVE P/E RATIO 0.96 | DIV'D YLD 3.0% | VALUE LINE

TIMELINESS 3 Lowered 9/16/16
SAFETY 2 Raised 5/1/15
TECHNICAL 3 Lowered 12/23/16
BETA .90 (1.00 = Market)

High:	44.6	37.9	45.4	44.0	28.0	34.5	34.8	37.0	55.1	62.1	53.4	64.6
Low:	29.2	32.5	35.4	21.7	14.5	25.7	25.8	30.3	36.9	47.1	36.8	44.7

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



Target Price Range 2019 | 2020 | 2021

128, 96, 80, 64, 48, 40, 32, 24, 16, 12

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	70	(+15%)	6%
Low	55	(-10%)	1%

Insider Decisions

	M	A	M	J	J	A	S	O	N
to Buy	0	0	0	0	0	0	0	0	0
Options	10	4	4	8	4	4	8	5	5
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	144	135	118
to Sell	92	99	114
Hld's(000)	45952	46685	48357

Percent shares traded 18 12 6

% TOT. RETURN 12/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	36.1	20.7
3 yr.	28.3	20.2
5 yr.	116.5	95.2

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
69.69	57.96	15.74	35.17	34.54	41.97	19.69	18.41	26.03	32.58	33.29	28.96	26.55	28.67	31.20	25.48	28.95	33.65	Revenues per sh	33.50
3.68	5.27	4.93	4.26	4.46	4.81	5.04	5.29	2.95	5.41	4.88	4.01	5.59	5.93	6.25	5.67	6.65	7.85	"Cash Flow" per sh	8.75
2.37	3.42	2.33	1.84	1.74	2.11	2.21	2.68	.18	2.32	1.66	1.01	1.97	2.61	2.89	2.83	2.60	3.50	Earnings per sh A	4.25
1.08	1.12	1.16	1.20	1.24	1.28	1.32	1.37	1.40	1.42	1.44	1.46	1.48	1.52	1.56	1.62	1.68	1.84	Div'd Decl'd per sh B ■	2.20
5.79	14.07	8.65	2.80	2.80	4.18	9.24	6.92	8.51	8.90	12.04	10.03	7.90	7.97	8.92	8.90	9.06	6.05	Cap'l Spending per sh	6.50
11.95	18.95	19.66	21.72	22.43	22.29	23.68	25.66	27.19	27.84	28.02	27.53	27.88	29.39	30.80	28.63	30.10	32.00	Book Value per sh C	38.75
23.30	26.89	26.93	32.30	32.48	33.16	33.37	37.80	38.64	38.97	39.27	43.92	44.21	44.50	44.67	51.19	53.50	54.25	Common Shs Outst'g D	61.00
10.9	11.4	12.5	15.9	17.1	17.3	15.8	15.0	NMF	9.9	18.1	31.1	17.1	18.2	19.0	16.1	22.5		Avg Ann'l P/E Ratio	15.0
.71	.58	.68	.91	.90	.92	.85	.80	NMF	.66	1.15	1.95	1.09	1.02	1.00	.82	1.20		Relative P/E Ratio	.95
4.2%	2.9%	4.0%	4.1%	4.2%	3.5%	3.8%	3.4%	4.2%	6.2%	4.8%	4.6%	4.4%	3.2%	2.8%	3.5%	2.9%		Avg Ann'l Div'd Yield	3.5%
						656.9	695.9	1005.8	1269.6	1307.3	1272.2	1173.9	1275.9	1393.6	1304.6	1550	1825	Revenues ($mill)	2050
						74.0	100.1	6.8	89.7	64.6	40.4	86.9	115.8	128.8	128.3	130	190	Net Profit ($mill)	255
						31.3%	31.3%	33.1%	30.7%	26.4%	31.1%	35.5%	34.7%	33.7%	35.8%	34.0%	30.0%	Income Tax Rate	30.0%
						9.7%	14.8%	173.2%	20.1%	28.0%	65.0%	5.4%	2.4%	2.4%	2.7%	4.0%	2.0%	AFUDC % to Net Profit	1.0%
						44.3%	36.8%	32.3%	48.4%	51.9%	51.4%	43.2%	51.6%	47.9%	56.0%	57.5%	59.5%	Long-Term Debt Ratio	48.5%
						55.7%	63.2%	67.7%	51.6%	48.1%	48.6%	56.8%	48.4%	52.1%	44.0%	42.5%	40.5%	Common Equity Ratio	51.5%
						1418.4	1534.2	1551.8	2100.7	2286.3	2489.7	2171.4	2704.7	2643.6	3332.7	3790	4260	Total Capital ($mill)	4600
						1646.4	1823.5	2022.2	2160.7	2495.4	2789.6	2742.7	2990.3	3239.4	3259.1	4550	4640	Net Plant ($mill)	4975
						6.8%	7.9%	1.6%	5.9%	4.4%	3.3%	5.5%	5.5%	6.1%	4.9%	4.5%	5.5%	Return on Total Cap'l	6.5%
						9.4%	10.3%	.7%	8.3%	5.9%	3.3%	7.1%	8.9%	9.4%	8.8%	8.5%	11.0%	Return on Shr. Equity	11.0%
						9.4%	10.3%	.7%	8.3%	5.9%	3.3%	7.1%	8.9%	9.4%	8.8%	8.5%	11.0%	Return on Com Equity E	11.0%
						3.8%	5.1%	NMF	3.2%	.7%	NMF	1.8%	3.7%	4.3%	3.8%	3.0%	5.0%	Retained to Com Eq	5.0%
						59%	50%	NMF	62%	87%	NMF	75%	58%	54%	57%	65%	52%	All Div'ds to Net Prof	53%

CAPITAL STRUCTURE as of 9/30/16
Total Debt $3292.5 mill. **Due in 5 Yrs** $963.5 mill.
LT Debt $3211.8 mill. **LT Interest** $125.4 mill.
(LT interest earned: 2.8x)
Leases, Uncapitalized Annual rentals $2.9 mill.

Pension Assets-12/15 $288.6 mill. **Oblig.** $356.6 mill.

Pfd Stock None

Common Stock 53,147,805 shs. as of 10/31/16

MARKET CAP: $3.3 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+1.0	+2.9	+4.5
Avg. Indust. Use (MWH)	9740	13055	15552
Avg. Indust. Revs. per KWH (¢)	8.19	7.97	8.02
Capacity at Yearend (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	988	992	1028
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.8	+.9	+.9
Fixed Charge Cov. (%)	224	357	324

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	-2.5%	-1.5%	3.0%
"Cash Flow"	3.0%	6.0%	6.5%
Earnings	4.0%	15.0%	7.5%
Dividends	2.5%	2.0%	6.0%
Book Value	3.0%	1.5%	4.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	380.7	279.8	259.9	355.5	1275.9
2014	460.2	283.2	272.1	378.1	1393.6
2015	442.0	272.2	272.1	318.3	1304.6
2016	450.0	325.4	333.8	440.8	1550
2017	650	350	350	475	1825

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.97	.69	.52	.43	2.61
2014	1.08	.44	.60	.76	2.89
2015	1.07	.55	.58	.63	2.83
2016	.94	.31	.41	.94	2.60
2017	1.30	.60	.65	.95	3.50

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.38	.38	.38	.38	1.52
2014	.39	.39	.39	.39	1.56
2015	.405	.405	.405	.405	1.62
2016	.42	.42	.42	.42	1.68
2017					

BUSINESS: Black Hills Corporation is a holding company for utilities that serve 207,000 electric customers in CO, SD, WY and MT, and 1 million gas customers in NE, IA, KS, CO, WY, and AR. Mines coal & has a gas & oil E&P business. Acq'd Mallon Resources 3/03; Cheyenne Light 1/05; utility ops. from Aquila 7/08; SourceGas 2/16. Discont. telecom in '05; oil marketing in '06; gas marketing in '11. Electric revenue breakdown: res'l, 31%; comm'l, 38%; ind'l, 16%; other, 15%. Generating sources: coal, 33%; other, 4%; purch., 63%. Fuel costs: 35% of revs. '15 deprec. rate: 3.3%. Has 3,100 employees. Chairman & CEO: David R. Emery. Pres. & COO: Linn Evans. Inc.: SD. Address: P.O. Box 1400, 625 Ninth St., Rapid City, SD 57701. Tel.: 605-721-1700. Internet: www.blackhillscorp.com.

Black Hills' earnings will almost certainly advance significantly in 2017. A year ago, the company acquired SourceGas, which provides gas service to more than 400,000 customers in four states. Black Hills incurred significant integration costs in connection with the SourceGas addition. These reduced earnings by $0.46 a share in the first nine months of 2016, and there were possibly additional expenses in the fourth quarter. What's more, the acquisition was completed in mid-February, so Black Hills did not have SourceGas' income for the first month and a half of 2016 — the seasonally strongest time of year for a gas utility. Our 2017 earnings estimate is within the company's targeted range of $3.45-$3.65 a share.

Black Hills is trying to reduce its exposure to the oil and gas exploration and production business. The company has sold some noncore assets. Even so, this operation will probably post a modest operating loss in 2017. Black Hills plans to retain some gas reserves it believes would be suitable for inclusion in the rate base, in case the company revives a proposal to include cost-of-service gas in the rate base.

The utility was disappointed with a rate order in Colorado. Black Hills filed for a rate hike of $8.5 million, based on a return of 9.83% on a common-equity ratio of 50.9%. The application was made to place a $65 million, 40-megawatt gas-fired unit in the rate base. However, the regulators granted the utility just $636,267, based on a 9.37% ROE. The equity ratio is 52.4%—except for the new plant, which is in rates based on an equity ratio of just 33%. Black Hills has asked the commission for reconsideration and a rehearing.

We think the board of directors will raise the dividend at its upcoming meeting. Black Hills hasn't hinted about its dividend policy, but we think the increase will be significantly greater than the $0.06-a-share annual raise declared in each of the past two years, given the large rise in the company's earning power following the SourceGas deal.

The stock's dividend yield is below the industry average, even when reflecting the increase we estimate. The equity doesn't stand out for 3- to 5-year total return potential, either.

Paul E. Debbas, CFA *January 27, 2017*

(A) Dil. EPS. Excl. nonrec. gains (losses): '05, (99¢); '08, ($1.55); '09, (28¢); '10, 10¢; '12, 4¢; '15, ($3.54); '16, (62¢); gains (losses) on disc. ops.: '05, (7¢); '06, 21¢; '07, (4¢); '08, $4.12; '09, 7¢; '11, 23¢; '12, (16¢). '14 EPS don't add due to rounding. Next egs. due early Feb. (B) Div'ds paid early Mar., Jun., Sept., & Dec. ■ Div'd reinv. plan avail. (C) Incl. def'd chgs. In '15: $10.52/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate all'd on com. eq. in SD in '15: none specified; in CO in '17: 9.37%; earned on avg. com. eq., '15: 9.0%. Reg. Climate: Avg.

Company's Financial Strength	A
Stock's Price Stability	80
Price Growth Persistence	70
Earnings Predictability	50

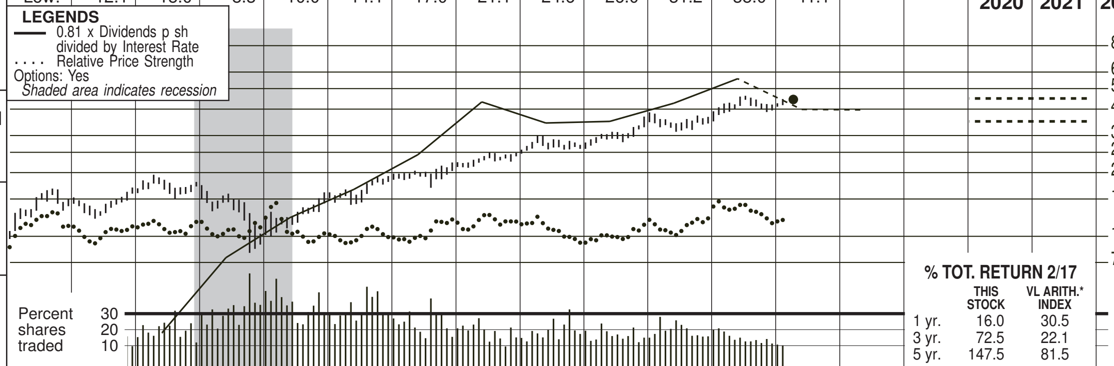
CMS ENERGY CORP. NYSE-CMS

RECENT PRICE 44.44 | P/E RATIO 22.4 (Trailing: 22.3 Median: 16.0) | RELATIVE P/E RATIO 1.15 | DIV'D YLD 3.0% | VALUE LINE

TIMELINESS 3 Raised 12/30/16
SAFETY 2 Raised 3/21/14
TECHNICAL 3 Lowered 9/30/16
BETA .65 (1.00 = Market)

High:	17.0	19.5	17.5	16.1	19.3	22.4	25.0	30.0	36.9	38.7	46.3	44.8
Low:	12.1	15.0	8.3	10.0	14.1	17.0	21.1	24.6	26.0	31.2	35.0	41.1

Target Price Range 2020 | 2021 | 2022



2020-22 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(Nil)	4%
Low	35	(-20%)	-1%

Insider Decisions

	M	J	J	A	S	O	N	D	J
to Buy	0	0	0	0	0	0	1	0	0
Options	10	0	1	0	1	0	0	0	11
to Sell	4	0	0	3	0	0	0	0	0

Institutional Decisions

	2Q2016	3Q2016	4Q2016
to Buy	236	203	232
to Sell	201	225	218
Hld's(000)	251054	246256	246703

% TOT. RETURN 2/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	16.0	30.5
3 yr.	72.5	22.1
5 yr.	147.5	81.5

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
72.16	60.28	34.21	28.06	28.52	30.57	28.95	30.13	27.23	25.77	25.59	23.90	24.68	26.09	23.29	22.92	*23.15*	*23.85*	Revenues per sh	*26.00*
5.24	d.09	2.39	2.87	3.43	3.22	3.08	3.88	3.47	3.70	3.65	3.82	4.06	4.22	4.59	4.88	*5.30*	*5.65*	"Cash Flow" per sh	*7.00*
1.27	d2.99	d.29	.74	1.10	.64	.64	1.23	.93	1.33	1.45	1.53	1.66	1.74	1.89	1.98	*2.15*	*2.30*	Earnings per sh A	*2.75*
1.46	1.09	- -	- -	- -	- -	.20	.36	.50	.66	.84	.96	1.02	1.08	1.16	1.24	*1.33*	*1.42*	Div'd Decl'd per sh B ■	*1.70*
9.49	5.18	3.32	2.69	2.69	3.01	5.61	3.50	3.59	3.29	3.47	4.65	4.98	5.73	5.64	5.99	*6.55*	*6.65*	Cap'l Spending per sh	*6.25*
14.21	7.86	9.84	10.63	10.53	10.03	9.46	10.88	11.42	11.19	11.92	12.09	12.98	13.34	14.21	15.23	*16.30*	*17.40*	Book Value per sh C	*21.00*
132.99	144.10	161.13	195.00	220.50	222.78	225.15	226.41	227.89	249.60	254.10	264.10	266.10	275.20	277.16	279.21	*281.00*	*283.00*	Common Shs Outst'g D	*289.00*
20.8	- -	- -	12.4	12.6	22.2	26.8	10.9	13.6	12.5	13.6	15.1	16.3	17.3	18.3	20.9	*Bold figures are*		Avg Ann'l P/E Ratio	*14.5*
1.07	- -	- -	.66	.67	1.20	1.42	.66	.91	.80	.85	.96	.92	.91	.92	1.10	*Value Line*		Relative P/E Ratio	*.90*
5.5%	7.5%	- -	- -	- -	- -	1.2%	2.7%	4.0%	4.0%	4.3%	4.2%	3.8%	3.6%	3.4%	3.0%	*estimates*		Avg Ann'l Div'd Yield	*4.2%*

CAPITAL STRUCTURE as of 12/31/16
Total Debt $10034 mill. **Due in 5 Yrs** $4608 mill.
LT Debt $8750 mill. **LT Interest** $389 mill.
Incl. $110 mill. capitalized leases.
(LT interest earned: 3.0x)
Leases, Uncapitalized Annual rentals $20 mill.
Pension Assets-12/16 $2101 mill. **Oblig** $2562 mill.
Pfd Stock $37 mill. **Pfd Div'd** $2 mill.
Incl. 373,148 shs. $4.50 $100 par, cum., callable at $110.00.
Common Stock 279,205,000 shs.

MARKET CAP: $12 billion (Large Cap)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		20-22
6519.0	6821.0	6205.0	6432.0	6503.0	6312.0	6566.0	7179.0	6456.0	6399.0	*6500*	*6750*	Revenues ($mill)	*7500*
168.0	300.0	231.0	356.0	384.0	413.0	454.0	479.0	525.0	553.0	*610*	*655*	Net Profit ($mill)	*805*
37.6%	31.6%	34.6%	38.1%	36.8%	39.4%	39.9%	34.3%	34.0%	33.1%	*34.0%*	*34.0%*	Income Tax Rate	*34.0%*
3.6%	1.3%	13.0%	2.2%	2.6%	2.9%	2.0%	2.3%	2.7%	3.1%	*3.0%*	*3.0%*	AFUDC % to Net Profit	*2.0%*
70.5%	69.4%	67.9%	70.1%	66.9%	67.9%	67.5%	68.7%	68.3%	67.1%	*66.5%*	*65.5%*	Long-Term Debt Ratio	*64.5%*
25.9%	27.4%	29.0%	29.5%	32.6%	31.6%	32.2%	31.0%	31.4%	32.6%	*33.5%*	*34.0%*	Common Equity Ratio	*35.5%*
8212.0	8993.0	8977.0	9473.0	9279.0	10101	10730	11846	12534	13040	*13725*	*14450*	Total Capital ($mill)	*17100*
8728.0	9190.0	9682.0	10069	10633	11551	12246	13412	14705	15715	*16675*	*17600*	Net Plant ($mill)	*19800*
4.5%	5.4%	4.7%	5.8%	6.3%	5.9%	6.0%	5.7%	5.7%	5.8%	*6.0%*	*6.0%*	Return on Total Cap'l	*6.0%*
6.9%	10.9%	8.0%	12.5%	12.5%	12.8%	13.0%	12.9%	13.2%	12.9%	*13.0%*	*13.0%*	Return on Shr. Equity	*13.0%*
7.2%	11.7%	8.5%	12.5%	12.6%	12.9%	13.1%	13.0%	13.3%	13.0%	*13.5%*	*13.5%*	Return on Com Equity E	*13.5%*
5.1%	8.4%	4.1%	6.9%	5.6%	5.0%	5.2%	5.0%	5.2%	4.8%	*5.0%*	*5.0%*	Retained to Com Eq	*5.0%*
35%	31%	54%	46%	55%	61%	60%	62%	61%	63%	*61%*	*61%*	All Div'ds to Net Prof	*61%*

ELECTRIC OPERATING STATISTICS

	2014	2015	2016
% Change Retail Sales (KWH)	+1.9	-.8	+1.7
Avg. Indust. Use (MWH)	NMF	5922	NA
Avg. Indust. Revs. per KWH (¢)	8.79	8.07	NA
Capacity at Peak (Mw)	8776	8762	NA
Peak Load, Summer (Mw)	7498	7812	NA
Annual Load Factor (%)	59.7	56.8	NA
% Change Customers (yr-end)	- -	+.6	+.1
Fixed Charge Cov. (%)	278	288	292

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '14-'16 to '20-'22
Revenues	-2.0%	-1.5%	*1.5%*
"Cash Flow"	3.5%	5.0%	*7.5%*
Earnings	8.5%	8.5%	*6.5%*
Dividends	- -	11.5%	*6.5%*
Book Value	3.0%	4.5%	*6.5%*

QUARTERLY REVENUES ($ mill.)

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	2523	1468	1430	1758	7179.0
2015	2111	1350	1486	1509	6456.0
2016	1801	1371	1587	1640	6399.0
2017	*1900*	*1400*	*1550*	*1650*	*6500*
2018	*2000*	*1450*	*1600*	*1700*	*6750*

EARNINGS PER SHARE A

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	.75	.30	.34	.35	1.74
2015	.73	.25	.53	.38	1.89
2016	.59	.45	.67	.28	1.98
2017	*.70*	*.40*	*.60*	*.45*	*2.15*
2018	*.80*	*.40*	*.65*	*.45*	*2.30*

QUARTERLY DIVIDENDS PAID B ■

Cal-endar	Mar.31	Jun.30	Sep.30	Dec. 31	Full Year
2013	.255	.255	.255	.255	1.02
2014	.27	.27	.27	.27	1.08
2015	.29	.29	.29	.29	1.16
2016	.31	.31	.31	.31	1.24
2017	.3325				

BUSINESS: CMS Energy Corporation is a holding company for Consumers Energy, which supplies electricity and gas to lower Michigan (excluding Detroit). Has 1.8 million electric, 1.7 million gas customers. Has 1,034 megawatts of nonregulated generating capacity. Sold Palisades nuclear plant in '07. Electric revenue breakdown: residential, 45%; commercial, 31%; industrial, 18%; other, 6%. Generating sources: coal, 27%; gas, 16%; other, 3%; purchased, 54%. Fuel costs: 44% of revenues. '16 reported deprec. rates: 3.9% electric, 2.9% gas, 9.8% other. Has 7,400 employees. Chairman: John G. Russell. President & CEO: Patti Poppe. Incorporated: Michigan. Address: One Energy Plaza, Jackson, Michigan 49201. Tel.: 517-788-0550. Internet: www.cmsenergy.com.

CMS Energy's utility subsidiary received an electric rate increase. The Michigan Public Service Commission (MPSC) granted Consumers Energy a rate hike of $113 million, based on 10.1% return on equity. The utility had sought a boost of $225 million, based on a 10.3% ROE. New tariffs went into effect on March 7th.

The utility self-implemented an interim gas rate increase in late January. The increase was $20 million, effective January 29th. Consumers Energy is seeking a hike of $90 million, based on a 10.6% ROE. The MPSC's final decision is due by the end of July.

Earnings should advance nicely this year and next. Consumers Energy will benefit from the aforementioned rate matters. In addition, the company is benefiting from a cost-management program that should see a reduction of 2%-3% annually in operating and maintenance expenses. Our 2017 estimate is within CMS Energy's typically narrow guidance of $2.14-$2.18 a share. (Management raised this by a cent upon its fourth-quarter earnings release in early February.) For 2018, we forecast a bottom-line increase in line with the company's annual goal of 6%-8%.

The board of directors raised the dividend in the first quarter. The increase was $0.09 a share (7.3%). This is in line with CMS Energy's target for yearly profit growth.

The utility has asked the MPSC to approve the buyout of a purchased-power contract with Entergy, the owner of the Palisades nuclear plant. Current market prices for power are well below the prices specified in the contract. If the $172 million buyout is approved, the contract will terminate in 2018 instead of 2022, and Consumers Energy will issue securitized bonds for the amount of the payment. The company expects to hear from the MPSC in August.

CMS Energy's strengths are reflected in the stock price, in our view. This reflects the company's solid earnings and dividend growth potential. With the equity's recent quotation near the upper end of our 2020-2022 Target Price Range, total return potential is negligible.

Paul E. Debbas, CFA *March 17, 2017*

(A) Diluted EPS. Excl. nonrec. gains (losses): '05, ($1.61); '06, ($1.08); '07, ($1.26); '09, (7¢); '10, 3¢; '11, 12¢; '12, (14¢); gains (losses) on disc. ops.: '05, 7¢; '06, 3¢; '07, (40¢); '09, 8¢; '10, (8¢); '11, 1¢; '12, 3¢. '16 EPS don't sum due to rounding. Next earnings report due late Apr. (B) Div'ds historically paid late Feb., May, Aug., & Nov. ■ Div'd reinvestment plan avail. (C) Incl. intang. In '16: $7.49/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate allowed on com. eq. in '17: 10.1%; earned on avg. com. eq., '16: 13.5%. Regulatory Climate: Average.

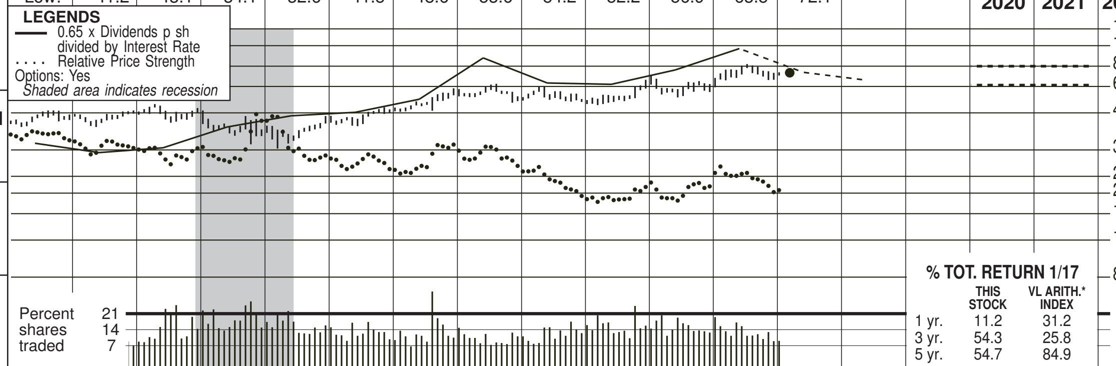
Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	90
Earnings Predictability	80

CON. EDISON NYSE-ED

RECENT PRICE 74.30 | P/E RATIO 17.9 (Trailing: 19.0 Median: 15.0) | RELATIVE P/E RATIO 0.92 | DIV'D YLD 3.7% | VALUE LINE

TIMELINESS 2 Raised 1/20/17
SAFETY 1 New 7/27/90
TECHNICAL 3 Raised 1/20/17
BETA .55 (1.00 = Market)

High:	49.3	52.9	49.3	46.3	51.0	62.7	66.0	64.0	68.9	72.3	81.9	74.8
Low:	41.2	43.1	34.1	32.6	41.5	48.6	53.6	54.2	52.2	56.9	63.5	72.1



% TOT. RETURN 1/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	11.2	31.2
3 yr.	54.3	25.8
5 yr.	54.7	84.9

2020-22 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	80	(+10%)	6%
Low	65	(-15%)	1%

Insider Decisions

	A	M	J	J	A	S	O	N	D
to Buy	10	8	8	10	8	8	11	8	7
Options	2	9	0	2	0	0	2	0	0
to Sell	0	0	0	0	0	0	0	0	1

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	368	375	322
to Sell	275	265	313
Hld's(000)	163563	167516	162537

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
45.41	39.65	43.51	40.24	47.66	47.14	48.23	49.62	46.36	45.69	44.17	41.62	42.27	44.11	42.85	*39.35*	*40.35*	*41.55*	Revenues per sh	*45.25*
5.70	5.44	5.12	4.54	5.27	5.28	5.77	5.99	5.86	6.24	6.61	7.15	7.45	7.30	7.93	*7.80*	*8.30*	*8.65*	"Cash Flow" per sh	*9.75*
3.21	3.13	2.83	2.32	2.99	2.95	3.48	3.36	3.14	3.47	3.57	3.86	3.93	3.62	4.05	*3.95*	*4.15*	*4.30*	Earnings per sh A	*4.75*
2.20	2.22	2.24	2.26	2.28	2.30	2.32	2.34	2.36	2.38	2.40	2.42	2.46	2.52	2.60	2.68	*2.76*	*2.84*	Div'd Decl'd per sh B ■	*3.08*
5.20	5.68	5.72	5.60	6.59	7.17	7.09	8.50	7.80	6.96	6.72	7.06	8.67	8.26	10.42	*14.45*	*12.25*	*12.25*	Cap'l Spending per sh	*11.25*
26.71	27.68	28.44	29.09	29.80	31.09	32.58	35.43	36.46	37.93	39.05	40.53	41.81	42.94	44.55	*46.80*	*48.35*	*49.95*	Book Value per sh C	*55.00*
212.15	213.93	225.84	242.51	245.29	257.46	272.02	273.72	281.12	291.62	292.89	292.87	292.87	292.88	293.00	*305.00*	*306.00*	*307.00*	Common Shs Outst'g D	*310.00*
12.0	13.3	14.3	18.2	15.1	15.5	13.8	12.3	12.5	13.3	15.1	15.4	14.7	15.9	15.6	*18.8*	*Bold figures are*		Avg Ann'l P/E Ratio	*15.5*
.61	.73	.82	.96	.80	.84	.73	.74	.83	.85	.95	.98	.83	.84	.79	*1.00*	*Value Line*		Relative P/E Ratio	*.95*
5.7%	5.3%	5.5%	5.3%	5.0%	5.0%	4.8%	5.7%	6.0%	5.2%	4.5%	4.1%	4.3%	4.4%	4.1%	3.6%	*estimates*		Avg Ann'l Div'd Yield	*4.2%*

CAPITAL STRUCTURE as of 9/30/16
Total Debt $14694 mill. **Due in 5 Yrs** $2603 mill.
LT Debt $13747 mill. **LT Interest** $625 mill.
(LT interest earned: 3.8x)

Leases, Uncapitalized Annual rentals $18 mill.

Pension Assets-12/15 $11759 mill. **Oblig** $14377 mill.

Pfd Stock None

Common Stock 304,727,523 shs. **as of 10/28/16**
MARKET CAP: $23 billion (Large Cap)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		20-22
13120	13583	13032	13325	12938	12188	12381	12919	12554	*12000*	*12350*	*12750*	Revenues ($mill)	*14000*
936.0	933.0	868.0	992.0	1062.0	1141.0	1157.0	1066.0	1193.0	*1190*	*1285*	*1330*	Net Profit ($mill)	*1460*
32.6%	36.0%	34.2%	36.0%	36.1%	34.5%	31.8%	34.0%	33.6%	*34.0%*	*34.0%*	*34.0%*	Income Tax Rate	*34.0%*
1.9%	1.7%	2.6%	2.4%	1.6%	.5%	.5%	.3%	.7%	*1.0%*	*1.0%*	*1.0%*	AFUDC % to Net Profit	*1.0%*
45.6%	48.3%	48.5%	48.6%	46.5%	45.9%	46.1%	48.0%	47.9%	*49.5%*	*46.5%*	*48.0%*	Long-Term Debt Ratio	*45.5%*
53.1%	50.6%	50.4%	50.4%	52.5%	54.1%	53.9%	52.0%	52.1%	*50.5%*	*53.5%*	*52.0%*	Common Equity Ratio	*54.5%*
16687	19160	20330	21952	21794	21933	22735	24207	25058	*28150*	*27525*	*29550*	Total Capital ($mill)	*31200*
19914	20874	22464	23863	25093	26939	28436	29827	32209	*35425*	*37925*	*40350*	Net Plant ($mill)	*46400*
7.0%	6.2%	5.7%	5.9%	6.2%	6.5%	6.4%	5.6%	6.0%	*5.5%*	*6.0%*	*5.5%*	Return on Total Cap'l	*5.5%*
10.3%	9.4%	8.3%	8.8%	9.1%	9.6%	9.4%	8.5%	9.1%	*8.5%*	*8.5%*	*8.5%*	Return on Shr. Equity	*8.5%*
10.4%	9.5%	8.4%	8.9%	9.2%	9.6%	9.4%	8.5%	9.1%	*8.5%*	*8.5%*	*8.5%*	Return on Com Equity E	*8.5%*
3.9%	3.1%	2.5%	3.2%	3.1%	3.6%	3.6%	2.6%	3.5%	*2.5%*	*3.0%*	*3.0%*	Retained to Com Eq	*3.0%*
63%	67%	71%	65%	66%	62%	62%	69%	61%	*67%*	*66%*	*65%*	All Div'ds to Net Prof	*65%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+.1	-1.1	+1.9
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NMF	NMF	NMF
Peak Load, Summer (Mw)	14883	13568	13721
Annual Load Factor (%)	NMF	NMF	NMF
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	385	366	370

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '20-'22
Revenues	- -	-2.0%	*.5%*
"Cash Flow"	4.5%	4.5%	*3.5%*
Earnings	3.5%	3.0%	*3.0%*
Dividends	1.0%	1.5%	*3.0%*
Book Value	4.0%	3.5%	*3.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	3789	2911	3390	2829	12919
2015	3616	2788	3443	2707	12554
2016	3156	2794	3417	*2633*	*12000*
2017	*3300*	*2800*	*3450*	*2800*	*12350*
2018	*3400*	*2900*	*3550*	*2900*	*12750*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	1.23	.63	1.49	.28	3.62
2015	1.26	.74	1.45	.60	4.05
2016	1.05	.78	1.48	*.64*	*3.95*
2017	*1.20*	*.75*	*1.55*	*.65*	*4.15*
2018	*1.25*	*.78*	*1.60*	*.67*	*4.30*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.615	.615	.615	.615	2.46
2014	.63	.63	.63	.63	2.52
2015	.65	.65	.65	.65	2.60
2016	.67	.67	.67	.67	2.68
2017	.69				

BUSINESS: Consolidated Edison, Inc. is a holding company for Consolidated Edison Company of New York, Inc. (CECONY), which sells electricity, gas, and steam in most of New York City and Westchester County. Also owns Orange and Rockland Utilities (O&R), which operates in New York and New Jersey. Has 3.6 million electric, 1.2 million gas customers. Pursues competitive energy opportunities through three wholly owned subsidiaries. Entered into midstream gas joint venture 6/16. Purchases most of its power. Fuel costs: 30% of revenues. '15 reported depreciation rates: 3.0%-3.1%. Has 14,800 employees. Chairman, President & CEO: John McAvoy. Inc.: New York. Address: 4 Irving Place, New York, New York 10003. Tel.: 212-460-4600. Internet: www.conedison.com.

The New York State Public Service Commission has approved a regulatory settlement for Consolidated Edison's primary utility subsidiary. Consolidated Edison Company of New York's electric rates rose $194.6 million (2.6%) this year (retroactive to January 1st) and will increase $155.3 million (2.0%) in 2018 and $155.2 million (1.9%) in 2019. CECONY's gas rates were cut $5.4 million this year, but will rise $92.3 million (5.6%) in 2018 and $89.4 million (5.1%) in 2019. The utility will also benefit each year from amortizations to income of regulatory liabilities. The allowed return on equity is 9.0%, and the common-equity ratio is 48%.

The rate increases should help lift earnings this year and next. Another positive factor is ongoing conversions of oil-heat customers to gas heat. And for 2017, ConEd will have a full year of income from its midstream gas joint venture (completed in June of 2016). Note that the company was scheduled to report fourth-quarter results shortly after this report went to press. Note as well that our earnings presentation *includes* the effects of mark-to-market accounting gains or losses. These boosted the bottom line by $0.02 a share in the first nine months of 2016.

The board of directors raised the dividend in early 2017. As we had expected, the increase was $0.02 a share (3.0%) quarterly. ConEd is targeting a payout ratio in a range of 60%-70%.

ConEd has expanded its presence in renewable energy. The company is already among the top-10 owners of solar generating capacity in the United States. Last month, ConEd acquired Juhl Energy for an undisclosed amount. Juhl owns 36 megawatts of wind capacity and has a pipeline of projects totaling about 500 mw. The company also has an operating and maintenance services business. We think this will have a very small effect on the company's earning power until the pipeline of projects starts entering operation.

This timely and high-quality stock has a dividend yield that is close to the industry mean. However, with the recent price well within our 2020-2022 Target Price Range, total return potential is low.

Paul E. Debbas, CFA *February 17, 2017*

(A) Diluted EPS. Excl. nonrec. gains (losses): '02, (11¢); '03, (45¢); '13, (32¢); '14, 9¢; '16, 15¢; gain on discontinued operations: '08, $1.01. '14 EPS don't add due to rounding. Next earnings report due late April. (B) Div'ds historically paid in mid-Mar., June, Sept., and Dec. ■ Div'd reinvestment plan avail. (C) Incl. intang. In '15: $29.74/sh. (D) In mill. (E) Rate base: net orig. cost. Rate allowed on com. eq. for CECONY in '17: 9.0%; O&R in '15: 9.0%; earned on avg. com. eq., '15: 9.3%. Regulatory Climate: Below Average.

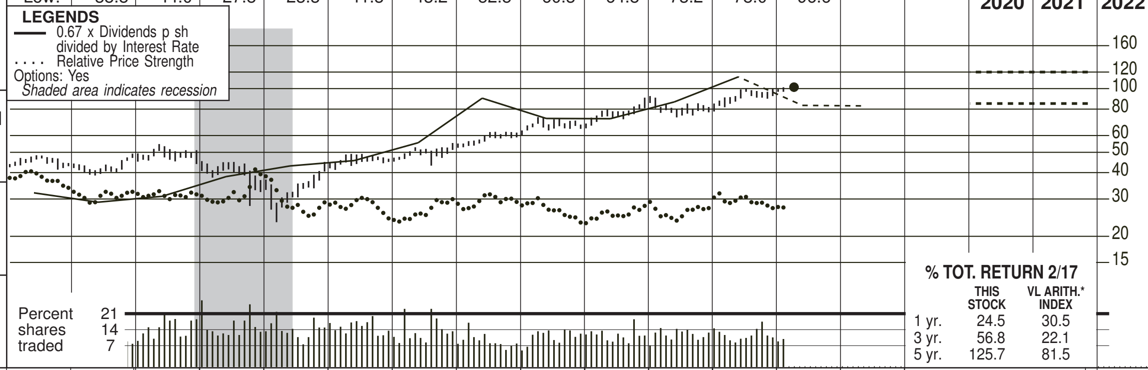
Company's Financial Strength	A+
Stock's Price Stability	95
Price Growth Persistence	45
Earnings Predictability	95

DTE ENERGY CO. NYSE-DTE

RECENT PRICE 101.55 | P/E RATIO 20.6 (Trailing: 21.1 / Median: 16.0) | RELATIVE P/E RATIO 1.06 | DIV'D YLD 3.4% | VALUE LINE

TIMELINESS 3 Lowered 11/4/16
SAFETY 2 Raised 12/21/12
TECHNICAL 3 Lowered 3/10/17
BETA .65 (1.00 = Market)

High:	49.2	54.7	45.3	45.0	49.1	55.3	62.6	73.3	90.8	92.3	100.4	102.1
Low:	38.8	44.0	27.8	23.3	41.3	43.2	52.5	60.3	64.8	73.2	78.0	96.6



2020-22 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	120	(+20%)	8%
Low	85	(-15%)	Nil

Insider Decisions

	M	J	J	A	S	O	N	D	J
to Buy	0	0	0	0	0	0	0	0	0
Options	1	0	0	1	0	0	1	0	7
to Sell	1	1	0	1	0	0	2	2	0

Institutional Decisions

	2Q2016	3Q2016	4Q2016
to Buy	249	262	272
to Sell	205	196	244
Hld's(000)	117383	119482	123429

% TOT. RETURN 2/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	24.5	30.5
3 yr.	56.8	22.1
5 yr.	125.7	81.5

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
48.71	40.30	41.76	40.84	50.74	50.93	54.28	57.23	48.45	50.51	52.57	51.01	54.56	69.50	57.60	59.24	**64.05**	**67.70**	Revenues per sh	**75.50**
6.98	8.31	6.95	6.81	8.14	8.19	8.48	8.26	9.38	9.78	9.57	9.77	10.13	11.85	9.44	10.60	**11.60**	**12.45**	"Cash Flow" per sh	**14.75**
2.15	3.83	2.85	2.55	3.27	2.45	2.66	2.73	3.24	3.74	3.67	3.88	3.76	5.10	4.44	4.83	**5.30**	**5.65**	Earnings per sh A	**6.50**
2.06	2.06	2.06	2.06	2.06	2.08	2.12	2.12	2.12	2.18	2.32	2.42	2.59	2.69	2.84	3.06	**3.36**	**3.59**	Div'd Decl'd per sh B ■	**4.30**
6.80	5.88	4.45	5.19	5.99	7.92	7.96	8.42	6.26	6.49	8.77	10.56	10.59	11.58	11.26	11.40	**16.15**	**14.50**	Cap'l Spending per sh	**14.00**
28.48	27.26	31.36	31.85	32.44	33.02	35.86	36.77	37.96	39.67	41.41	42.78	44.73	47.05	48.88	50.22	**52.15**	**54.25**	Book Value per sh C	**62.00**
161.13	167.46	168.61	174.21	177.81	177.14	163.23	163.02	165.40	169.43	169.25	172.35	177.09	176.99	179.47	179.43	**179.50**	**179.50**	Common Shs Outst'g D	**187.00**
19.3	11.3	13.7	16.0	13.8	17.4	18.3	14.8	10.4	12.3	13.5	14.9	17.9	14.9	18.1	19.0	Bold figures are		Avg Ann'l P/E Ratio	**16.0**
.99	.62	.78	.85	.73	.94	.97	.89	.69	.78	.85	.95	1.01	.78	.91	1.00	Value Line		Relative P/E Ratio	**1.00**
5.0%	4.8%	5.3%	5.0%	4.6%	4.9%	4.4%	5.2%	6.3%	4.8%	4.7%	4.2%	3.8%	3.5%	3.5%	3.3%	estimates		Avg Ann'l Div'd Yield	**4.2%**
						8861.0	9329.0	8014.0	8557.0	8897.0	8791.0	9661.0	12301	10337	10630	**11500**	**12150**	Revenues ($mill)	**14100**
						453.0	445.0	532.0	630.0	624.0	666.0	661.0	905.0	796.0	868.0	**960**	**1020**	Net Profit ($mill)	**1240**
						25.1%	34.9%	31.6%	32.7%	35.9%	29.8%	27.5%	28.5%	25.6%	24.5%	**26.0%**	**26.0%**	Income Tax Rate	**26.0%**
						7.1%	11.2%	2.6%	1.6%	1.6%	3.0%	3.5%	4.1%	4.3%	3.6%	**4.0%**	**3.0%**	AFUDC % to Net Profit	**3.0%**
						54.4%	56.4%	54.0%	51.3%	50.6%	48.8%	47.7%	50.0%	50.2%	55.6%	**56.0%**	**56.0%**	Long-Term Debt Ratio	**56.5%**
						45.6%	43.6%	46.0%	48.7%	49.4%	51.2%	52.3%	50.0%	49.8%	44.4%	**44.0%**	**44.0%**	Common Equity Ratio	**43.5%**
						12824	13736	13648	13811	14196	14387	15135	16670	17607	20280	**21375**	**22150**	Total Capital ($mill)	**26700**
						11408	12231	12431	12992	13746	14684	15800	16820	18034	19730	**21500**	**22875**	Net Plant ($mill)	**26300**
						5.3%	5.0%	5.7%	6.3%	5.9%	6.1%	5.7%	6.6%	5.7%	5.3%	**5.5%**	**6.0%**	Return on Total Cap'l	**6.0%**
						7.7%	7.4%	8.5%	9.4%	8.9%	9.0%	8.3%	10.9%	9.1%	9.6%	**10.0%**	**10.5%**	Return on Shr. Equity	**10.5%**
						7.7%	7.4%	8.5%	9.4%	8.9%	9.0%	8.3%	10.9%	9.1%	9.6%	**10.0%**	**10.5%**	Return on Com Equity E	**10.5%**
						1.5%	1.7%	2.9%	4.0%	3.4%	3.5%	2.7%	5.2%	3.4%	3.7%	**4.0%**	**4.0%**	Retained to Com Eq	**3.5%**
						80%	77%	65%	57%	62%	61%	67%	52%	63%	61%	**63%**	**63%**	All Div'ds to Net Prof	**65%**

CAPITAL STRUCTURE as of 12/31/16
Total Debt $11782 mill. **Due in 5 Yrs** $3578 mill.
LT Debt $11269 mill. **LT Interest** $463 mill.
Incl. $7 mill. capitalized leases and $780 mill. Trust Preferred Securities.
(LT interest earned: 3.7x)

Leases, Uncapitalized Annual rentals $33 mill.
Pension Assets-12/16 $4012 mill. **Oblig** $5171 mill.
Pfd Stock None
Common Stock 179,432,999 shs. as of 1/31/17
MARKET CAP: $18 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2014	2015	2016
% Change Retail Sales (KWH)	-1.7	-.6	+3.5
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NMF	NMF	NMF
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	357	279	300

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '14-'16 to '20-'22
Revenues	2.5%	4.0%	3.5%
"Cash Flow"	3.5%	2.0%	5.5%
Earnings	5.5%	6.0%	5.0%
Dividends	3.5%	5.5%	7.0%
Book Value	4.0%	4.0%	4.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	3930	2698	2595	3078	12301
2015	2984	2268	2598	2487	10337
2016	2566	2262	2928	2874	10630
2017	**3050**	**2450**	**3000**	**3000**	**11500**
2018	**3250**	**2600**	**3150**	**3150**	**12150**

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	1.84	.70	.88	1.68	5.10
2015	1.53	.61	1.47	.83	4.44
2016	1.37	.84	1.88	.73	4.83
2017	**1.60**	**1.00**	**1.60**	**1.10**	**5.30**
2018	**1.70**	**1.05**	**1.70**	**1.20**	**5.65**

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.62	.62	.655	.655	2.55
2014	.655	.655	.655	.69	2.66
2015	.69	.69	.69	.73	2.80
2016	.73	.73	.73	.77	2.96
2017	.825				

BUSINESS: DTE Energy Company is a holding company for DTE Electric (formerly Detroit Edison), which supplies electricity in Detroit and a 7,600-square-mile area in southeastern Michigan, and DTE Gas (formerly Michigan Consolidated Gas). Customers: 2.1 mill. electric, 1.3 mill. gas. Has various nonutility operations. Electric revenue breakdown: residential, 48%; commercial, 34%; industrial, 13%; other, 5%. Generating sources: coal, 67%; nuclear, 17%; gas, 1%; purchased, 15%. Fuel costs: 52% of revenues. '16 reported deprec. rates: 3.5% electric, 2.4% gas. Has 10,000 employees. Chairman & CEO: Gerard M. Anderson. President & COO: Jerry Norcia. Inc.: MI. Address: One Energy Plaza, Detroit, MI 48226-1279. Tel.: 313-235-4000. Internet: www.dteenergy.com.

DTE Energy's utility subsidiaries have received rate orders in recent months. DTE Gas received an increase of $122.3 million, effective December 16th. DTE Electric was granted a raise of $184.3 million, effective February 7th. Each ruling was based on a 10.1% return on equity, based on a common-equity ratio of 52% and 50% for DTE Gas and DTE Electric, respectively. DTE Electric will file another application in the second quarter. As for DTE Gas, it expects to initiate its next case in 2018 or 2019.

We estimate that earnings will increase significantly in 2017. The comparison will be easy, as mark-to-market accounting charges associated with the energy trading business hurt the bottom line by $0.39 a share in 2016. Rate relief from the aforementioned tariff hikes will help. We expect a rise in income from the nonregulated side of DTE Energy's business, helped by a midstream gas acquisition the company made last fall. However, we also base our estimate on normal weather patterns. Favorable weather added $59 million to DTE Electric's net profit in 2016. Our 2017 earnings estimate is within the company's targeted range of $5.15-$5.46 a share.

The proposed NEXUS natural gas pipeline has had a temporary setback. The Federal Energy Regulatory Commission is currently unable to approve it due to a lack of a quorum, with three vacancies on the five-man commission. DTE Energy would have a 50% stake (a $1 billion investment) in NEXUS. The company believes the addition of a commissioner can still come in time for the project to be completed on schedule in late 2017.

We forecast higher profits in 2018. We assume that NEXUS is completed on schedule and that DTE Electric receives a rate increase in the first half of next year. The company's goal for annual earnings (and dividend) growth is 5%-7%.

DTE Energy's strengths are reflected in the stock price. The dividend yield is just average for a utility. And with the recent quotation near the midpoint of our 2020-2022 Target Price Range, total return potential is low, despite the strong dividend growth we project over that time frame.

Paul E. Debbas, CFA *March 17, 2017*

(A) Diluted EPS. Excl. nonrec. gains (losses): '03, (16¢); '05, (2¢); '06, 1¢; '07, $1.96; '08, 50¢; '11, 51¢; '15, (39¢); gains (losses) on disc. ops.: '03, 40¢; '04, (6¢); '05, (20¢); '06, (2¢); '07, $1.20; '08, 13¢; '12, (33¢). '16 EPS don't sum due to rounding. Next egs report due late Apr. (B) Div'ds paid in mid-Jan., Apr., July and Oct. ■ Div'd reinvest. plan avail. (C) Incl. intang. In '16: $39.01/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate allowed on com. eq. in '17: 10.1% elec.; in '16: 10.1% gas; earn. on avg. com. eq., '16: 4.9%. Reg. Clim.: Avg.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	85
Earnings Predictability	90

ENTERGY CORP. NYSE-ETR

RECENT PRICE **75.00** | P/E RATIO **18.2** (Trailing: 10.9 / Median: 12.0) | RELATIVE P/E RATIO **0.93** | DIV'D YLD **4.7%** | VALUE LINE

TIMELINESS 1 Raised 2/24/17
SAFETY 3 Lowered 3/22/13
TECHNICAL 5 Lowered 3/10/17
BETA .65 (1.00 = Market)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
High:	94.0	125.0	127.5	86.6	84.3	74.5	74.5	72.6	92.0	90.3	82.1	76.8
Low:	66.8	89.6	61.9	59.9	68.7	57.6	61.6	60.2	60.4	61.3	65.4	69.6

2020-22 PROJECTIONS

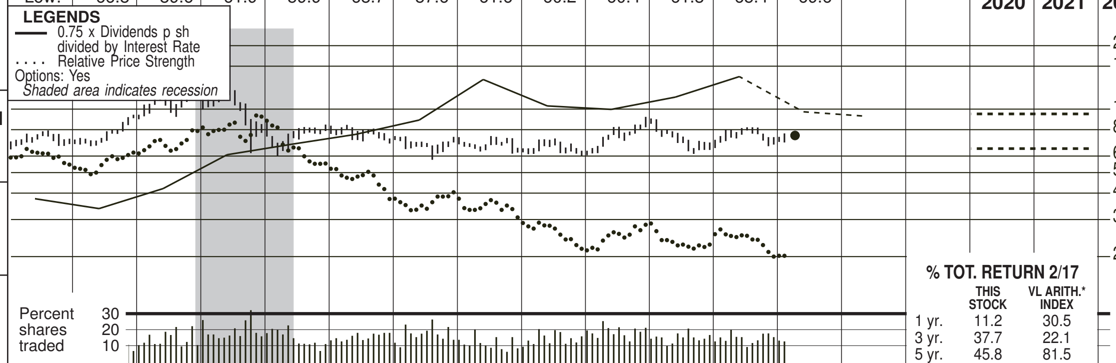
	Price	Gain	Ann'l Total Return
High	95	(+25%)	*10%*
Low	65	(-15%)	*2%*

Insider Decisions

	M	J	J	A	S	O	N	D	J
to Buy	0	0	0	0	0	0	0	0	0
Options	3	10	0	0	7	0	0	7	17
to Sell	4	0	0	3	0	0	0	0	0

Institutional Decisions

	2Q2016	3Q2016	4Q2016
to Buy	264	274	251
to Sell	219	219	271
Hld's(000)	153958	154079	160527



% TOT. RETURN 2/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	11.2	30.5
3 yr.	37.7	22.1
5 yr.	45.8	81.5

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
43.59	37.34	40.17	46.69	46.61	53.94	59.47	69.15	56.82	64.27	63.67	57.94	63.86	69.71	64.54	60.55	**59.50**	**61.15**	Revenues per sh	**58.75**
6.41	7.62	7.43	8.33	8.18	10.69	11.73	12.89	13.29	16.54	17.53	15.98	16.25	17.68	17.71	18.72	**17.20**	**17.70**	"Cash Flow" per sh	**19.00**
3.08	3.68	3.69	3.93	4.40	5.36	5.60	6.20	6.30	6.66	7.55	6.02	4.96	5.77	5.81	6.88	**4.85**	**5.00**	Earnings per sh A	**5.25**
1.28	1.34	1.60	1.89	2.16	2.16	2.58	3.00	3.00	3.24	3.32	3.32	3.32	3.32	3.34	3.42	**3.50**	**3.58**	Div'd Decl'd per sh B ■ †	**3.80**
6.25	6.88	6.85	6.51	6.72	9.44	10.29	13.92	12.99	13.33	15.21	18.18	15.73	14.82	16.79	17.28	**20.95**	**20.50**	Cap'l Spending per sh	**19.50**
33.78	35.24	38.02	38.26	35.71	40.45	40.71	42.07	45.54	47.53	50.81	51.73	54.00	55.83	51.89	45.12	**46.55**	**47.95**	Book Value per sh C	**52.00**
220.73	222.42	228.90	216.83	216.83	202.67	193.12	189.36	189.12	178.75	176.36	177.81	178.37	179.24	178.39	179.13	**179.00**	**179.00**	Common Shs Outst'g D	**179.00**
12.5	11.5	13.8	15.1	16.3	14.3	19.3	16.6	12.0	11.6	9.1	11.2	13.2	12.9	12.5	10.9	*Bold figures are*		Avg Ann'l P/E Ratio	**15.5**
.64	.63	.79	.80	.87	.77	1.02	1.00	.80	.74	.57	.71	.74	.68	.63	.57	*Value Line*		Relative P/E Ratio	**.95**
3.3%	3.2%	3.1%	3.2%	3.0%	2.8%	2.4%	2.9%	4.0%	4.2%	4.9%	4.9%	5.1%	4.5%	4.6%	4.6%	*estimates*		Avg Ann'l Div'd Yield	**4.7%**

CAPITAL STRUCTURE as of 12/31/16
Total Debt $15275 mill. **Due in 5 Yrs** $4804.9 mill.
LT Debt $14492 mill. **LT Interest** $676.7 mill.
Incl. $697.5 mill. of securitization bonds.
(LT interest earned: 3.1x)
Leases, Uncapitalized Annual rentals $76.7 mill.
Pension Assets-12/16 $5171.2 mill. **Oblig** $7142.6 mill.
Pfd Stock $203.2 mill. **Pfd Div'd** $14.1 mill.
825,105 sh. 4.32%-7.55%, $100 par; 250,000 sh. 8.75%, all without sinking fund.
Common Stock 179,394,698 shs.
as of 1/31/17
MARKET CAP: $13 billion (Large Cap)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		20-22
11484	13094	10746	11488	11229	10302	11391	12495	11513	10846	**10650**	**10950**	Revenues ($mill)	**10500**
1160.0	1240.5	1251.1	1270.3	1367.4	1091.9	904.5	1060.0	1061.2	1249.8	**890**	**910**	Net Profit ($mill)	**955**
30.7%	32.7%	33.6%	32.7%	17.3%	13.0%	26.7%	37.8%	2.2%	11.3%	**35.0%**	**35.0%**	Income Tax Rate	**35.0%**
5.8%	5.6%	7.4%	7.4%	8.9%	11.9%	10.1%	9.3%	7.4%	8.1%	**11.0%**	**11.0%**	AFUDC % to Net Profit	**9.0%**
54.3%	58.2%	55.3%	56.3%	52.2%	55.8%	55.1%	54.9%	57.8%	63.6%	**62.5%**	**62.5%**	Long-Term Debt Ratio	**62.5%**
43.9%	40.2%	43.1%	42.1%	46.4%	42.9%	43.6%	43.8%	40.8%	35.5%	**36.5%**	**36.5%**	Common Equity Ratio	**37.0%**
17902	19795	19985	20166	19324	21432	22109	22842	22714	22777	**22700**	**23450**	Total Capital ($mill)	**25400**
20974	22429	23389	23848	25609	27299	27882	28723	27824	27921	**29525**	**30975**	Net Plant ($mill)	**34300**
7.9%	7.5%	7.6%	7.7%	8.5%	6.4%	5.4%	6.0%	6.0%	6.9%	**5.5%**	**5.5%**	Return on Total Cap'l	**5.0%**
14.2%	15.0%	14.0%	14.4%	14.8%	11.5%	9.1%	10.3%	11.1%	15.1%	**10.5%**	**10.5%**	Return on Shr. Equity	**10.0%**
14.4%	15.3%	14.3%	14.7%	15.0%	11.6%	9.2%	10.4%	11.2%	15.2%	**10.5%**	**10.5%**	Return on Com Equity E	**10.0%**
8.0%	8.1%	7.6%	7.6%	8.4%	5.2%	3.0%	4.4%	4.8%	7.7%	**3.0%**	**3.0%**	Retained to Com Eq	**3.0%**
46%	48%	48%	49%	45%	56%	68%	58%	58%	50%	**72%**	**72%**	All Div'ds to Net Prof	**73%**

ELECTRIC OPERATING STATISTICS

	2014	2015	2016
% Change Retail Sales (KWH)	+2.9	+1.3	+.3
Avg. Indust. Use (MWH)	951	957	NA
Avg. Indust. Revs. per KWH(¢)	6.00	5.55	5.09
Capacity at Peak (Mw)	24367	24504	NA
Peak Load, Summer (Mw)	20472	21730	21387
Annual Load Factor (%)	65	61	NA
% Change Customers (yr-end)	+.6	+1.0	+.8
Fixed Charge Cov. (%)	309	223	258

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '14-'16 to '20-'22
Revenues	3.0%	1.0%	*-1.5%*
"Cash Flow"	7.0%	2.5%	*1.0%*
Earnings	3.0%	-2.0%	*-2.5%*
Dividends	5.0%	1.0%	*2.0%*
Book Value	3.0%	1.0%	*.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	3208	2996	3458	2831	12494
2015	2920	2713	3371	2508	11513
2016	2609	2462	3124	2648	10845
2017	*2650*	*2500*	*3150*	*2350*	*10650*
2018	*2750*	*2550*	*3250*	*2400*	*10950*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	2.27	1.09	1.68	.74	5.77
2015	1.65	.83	1.90	1.43	5.81
2016	1.28	3.16	2.16	.28	6.88
2017	*1.25*	*1.05*	*1.55*	*1.00*	*4.85*
2018	*1.30*	*1.10*	*1.60*	*1.00*	*5.00*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.83	.83	.83	.83	3.32
2014	.83	.83	.83	.83	3.32
2015	.83	.83	.83	.85	3.34
2016	.85	.85	.85	.87	3.42
2017	.87				

BUSINESS: Entergy Corporation supplies electricity to 2.9 million customers through subsidiaries in Arkansas, Louisiana, Mississippi, Texas, and New Orleans (regulated separately from Louisiana). Distributes gas to 200,000 customers in Louisiana. Has a nonutility subsidiary that owns six nuclear units (one no longer operating). Electric revenue breakdown: residential, 37%; commercial, 27%; industrial, 26%; other, 10%. Generating sources: gas, 35%; nuclear, 31%; coal, 7%; purchased, 27%. Fuel costs: 28% of revenues. '16 reported depreciation rate: 2.8%. Has 13,600 employees. Chairman & CEO: Leo Denault. Incorporated: Delaware. Address: 639 Loyola Avenue, P.O. Box 61000, New Orleans, Louisiana 70161. Telephone: 504-576-4000. Internet: www.entergy.com.

Entergy is closing two more nuclear plants. In Michigan, the utility purchasing power from the Palisades nuclear plant agreed to buy out the contract (which will now expire in 2018, rather than 2022) because the price specified in the pact is higher than market prices. In New York, Entergy agreed to close the politically unpopular Indian Point station in 2020 and 2021, thereby resolving battles that had persisted for several years. As a result, Entergy took an after-tax charge of more than $1.8 billion in the fourth quarter of 2016. The company will continue to record costs associated with the plant closings, as it is for other facilities that it has announced will shut, but we *include* these in our earnings presentation due to their ongoing nature.

With these and other plant closings, and the sale of a unit in New York, Entergy will be almost an entirely regulated company by 2021. In recent years, low wholesale power prices and rising operating costs have hurt the company's nonregulated operations. (Revenues per megawatt-hour sold declined 15% in 2016.) This has forced Entergy to take some large nonrecurring charges to write down the value of its nonutility facilities, and, as mentioned above, the company is still incurring expenses associated with its decision to close these nuclear units.

A sizable earnings decline is likely this year. In 2016, Entergy benefited from tax credits that made its tax rate much lower than normal. In addition, the market conditions for the company's merchant power business remain unfavorable. Our estimate is near the lower end of Entergy's targeted range of $4.75-$5.35 a share because we include some expenses that it excludes from its guidance.

We forecast higher profits in 2018. Growth should come from the regulated side. Entergy's service territory is experiencing volume growth. In addition, the utilities benefit from formula rate plans that provide rate relief annually. We think higher utility income will outweigh weakness from the nonutility business.

This timely stock has one of the highest dividend yields of any electric utility issue. Total return potential to 2020-2022 is a bit above the industry average.

Paul E. Debbas, CFA *March 17, 2017*

(A) Diluted EPS. Excl. nonrec. gains (losses): '01, 15¢; '02, ($1.04); '03, 33¢ net; '05, (21¢); '12, ($1.26); '13, ($1.14); '14, (56¢); '15, ($6.99); '16, ($10.14). '14 EPS don't sum due to rounding. Next earnings report due early May. (B) Div'ds historically paid in early Mar., June, Sept., & Dec. ■ Div'd reinvest. plan avail. † Shareholder invest. plan avail. (C) Incl. def'd charges. In '16: $34.32/sh. (D) In mill. (E) Rate base: Net orig. cost. Allowed ROE (blended): 10%; earned on avg. com. eq., '16: 12.8%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	15
Earnings Predictability	65

EVERSOURCE ENERGY NYSE-ES

RECENT PRICE **55.68** | P/E RATIO **17.6** (Trailing: 19.8 / Median: 17.0) | RELATIVE P/E RATIO **0.91** | DIV'D YLD **3.4%** | VALUE LINE

TIMELINESS 3 Lowered 6/10/16
SAFETY 1 Raised 5/22/15
TECHNICAL 3 Raised 1/20/17
BETA .70 (1.00 = Market)

High:	28.9	33.6	31.6	26.5	32.2	36.5	40.9	45.7	56.7	56.8	60.4	56.1
Low:	19.1	26.2	17.2	19.0	24.7	30.0	33.5	38.6	41.3	44.6	50.0	54.1

Target Price Range 2020 | 2021 | 2022

2020-22 PROJECTIONS

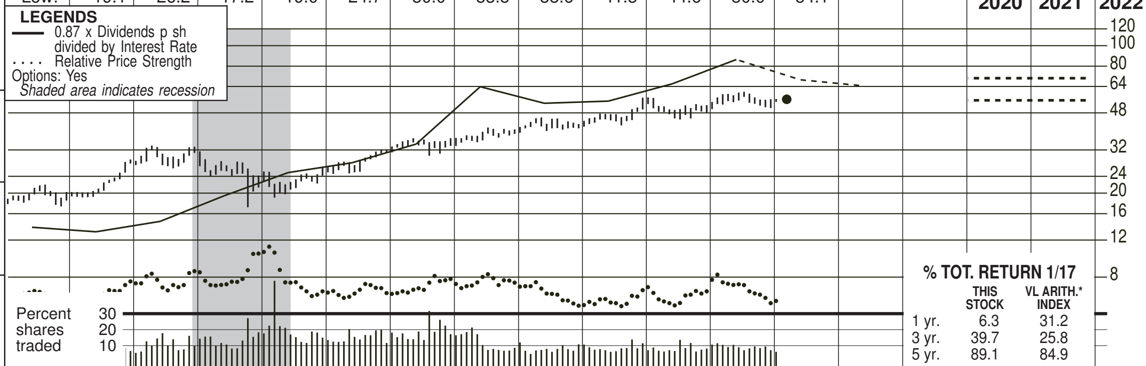
	Price	Gain	Ann'l Total Return
High	70	(+25%)	9%
Low	55	(Nil)	3%

Insider Decisions

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

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	232	277	254
to Sell	246	205	226
Hld's(000)	225085	222452	219375



% TOT. RETURN 1/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	6.3	31.2
3 yr.	39.7	25.8
5 yr.	89.1	84.9

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
52.82	40.89	47.53	51.82	41.85	44.64	37.27	37.22	30.97	27.76	25.21	19.98	23.16	24.42	25.08	*23.80*	*23.80*	*24.45*	Revenues per sh	*27.00*
10.48	6.32	5.80	5.00	5.46	3.69	4.82	6.16	4.96	5.68	4.88	4.03	5.22	4.56	4.94	*5.00*	*5.40*	*5.80*	"Cash Flow" per sh	*7.25*
1.37	1.08	1.24	.91	.98	.82	1.59	1.86	1.91	2.10	2.22	1.89	2.49	2.58	2.76	*2.95*	*3.15*	*3.35*	Earnings per sh A	*4.25*
.45	.53	.58	.63	.68	.73	.78	.83	.95	1.03	1.10	1.32	1.47	1.57	1.67	1.78	*1.90*	*2.00*	Div'd Decl'd per sh B ■	*2.30*
3.40	3.86	4.31	4.85	5.89	5.49	7.14	8.06	5.17	5.41	6.08	4.69	4.62	5.06	5.44	*7.00*	*8.40*	*7.75*	Cap'l Spending per sh	*6.50*
16.27	17.33	17.73	17.80	18.46	18.14	18.65	19.38	20.37	21.60	22.65	29.41	30.49	31.47	32.64	*33.80*	*35.10*	*36.45*	Book Value per sh C	*41.50*
130.13	127.56	127.70	129.03	131.59	154.23	156.22	155.83	175.62	176.45	177.16	314.05	315.27	316.98	317.19	*317.00*	*317.00*	*317.00*	Common Shs Outst'g D	*317.00*
14.1	16.1	13.4	20.8	19.8	27.1	18.7	13.7	12.0	13.4	15.4	19.9	16.9	17.9	18.1	*18.8*	*Bold figures are*		Avg Ann'l P/E Ratio	*14.5*
.72	.88	.76	1.10	1.05	1.46	.99	.82	.80	.85	.97	1.27	.95	.94	.91	*1.00*	*Value Line*		Relative P/E Ratio	*.90*
2.3%	3.0%	3.5%	3.3%	3.5%	3.3%	2.6%	3.2%	4.2%	3.6%	3.2%	3.5%	3.5%	3.4%	3.3%	3.2%	*estimates*		Avg Ann'l Div'd Yield	*3.7%*

CAPITAL STRUCTURE as of 9/30/16
Total Debt $10344 mill. **Due in 5 Yrs** $4545.3 mill.
LT Debt $9235.1 mill. **LT Interest** $385.2 mill.
(LT interest earned: 4.6x)
Leases, Uncapitalized Annual rentals $16.4 mill.
Pension Assets-12/15 $3905.4 mill. **Oblig** $5080.1 mill.
Pfd Stock $155.6 mill. **Pfd Div'd** $7.6 mill.
Incl. 2,324,000 shs $1.90-$3.28 rates ($50 par) not subject to mandatory redemption, call. at $50.50-$54.00; 430,000 shs 4.25%-4.78% not subject to mandatory redemption, call. at $102.80-$103.63.
Common Stock 316,885,808 shs. **as of 10/31/16**
MARKET CAP: $18 billion (Large Cap)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		20-22
5822.2	5800.1	5439.4	4898.2	4465.7	6273.8	7301.2	7741.9	7954.8	*7550*	*7550*	*7750*	Revenues ($mill)	*8550*
251.5	296.2	335.6	377.8	400.3	533.0	793.7	827.1	886.0	*940*	*1010*	*1075*	Net Profit ($mill)	*1330*
30.3%	29.7%	34.9%	36.6%	29.9%	34.0%	35.0%	36.2%	37.9%	*37.5%*	*37.5%*	*37.5%*	Income Tax Rate	*37.5%*
13.9%	15.8%	4.6%	7.1%	8.6%	2.3%	1.4%	2.4%	2.9%	*4.0%*	*4.0%*	*4.0%*	AFUDC % to Net Profit	*3.0%*
59.2%	60.4%	57.2%	55.1%	53.4%	43.7%	44.3%	45.9%	45.6%	*46.5%*	*46.5%*	*46.5%*	Long-Term Debt Ratio	*45.5%*
39.2%	38.1%	41.5%	43.6%	45.3%	55.4%	54.8%	53.2%	53.6%	*53.0%*	*52.5%*	*52.5%*	Common Equity Ratio	*53.0%*
7431.1	7926.2	8629.5	8741.8	8856.0	16675	17544	18738	19313	*20250*	*21100*	*21950*	Total Capital ($mill)	*24400*
7229.9	8207.9	8840.0	9567.7	10403	16605	17576	18647	19892	*21600*	*23700*	*25550*	Net Plant ($mill)	*29200*
5.0%	5.4%	5.4%	5.8%	5.9%	4.2%	5.5%	5.3%	5.5%	*5.5%*	*5.5%*	*6.0%*	Return on Total Cap'l	*6.5%*
8.3%	9.4%	9.1%	9.6%	9.7%	5.7%	8.1%	8.2%	8.4%	*8.5%*	*9.0%*	*9.0%*	Return on Shr. Equity	*10.0%*
8.4%	9.6%	9.2%	9.8%	9.8%	5.7%	8.2%	8.2%	8.5%	*8.5%*	*9.0%*	*9.0%*	Return on Com Equity E	*10.0%*
4.3%	5.3%	4.7%	5.0%	5.0%	1.6%	3.4%	3.5%	3.4%	*3.5%*	*3.5%*	*3.5%*	Retained to Com Eq	*4.5%*
50%	45%	50%	49%	50%	72%	59%	58%	61%	*61%*	*60%*	*60%*	All Div'ds to Net Prof	*55%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+1.0	-1.6	+.3
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	6.02	6.14	5.86
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Winter (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	427	426	447

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '20-'22
Revenues	-6.5%	-5.5%	*1.5%*
"Cash Flow"	-1.0%	-2.5%	*5.5%*
Earnings	9.5%	6.0%	*7.0%*
Dividends	9.5%	11.0%	*5.5%*
Book Value	6.0%	9.0%	*4.0%*

QUARTERLY REVENUES ($ mill.)

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	2290	1677	1892	1881	7741.9
2015	2513	1817	1933	1691	7954.8
2016	2056	1767	2040	*1687*	*7550*
2017	*2150*	*1800*	*1900*	*1700*	*7550*
2018	*2200*	*1850*	*1950*	*1750*	*7750*

EARNINGS PER SHARE A

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	.74	.40	.74	.69	2.58
2015	.80	.65	.74	.57	2.76
2016	.77	.64	.83	*.71*	*2.95*
2017	*.90*	*.70*	*.85*	*.70*	*3.15*
2018	*.95*	*.75*	*.90*	*.75*	*3.35*

QUARTERLY DIVIDENDS PAID B ■

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.367	.367	.367	.367	1.47
2014	.393	.393	.393	.393	1.57
2015	.417	.417	.418	.418	1.67
2016	.445	.445	.445	.445	1.78
2017	.475				

BUSINESS: Eversource Energy (formerly Northeast Utilities) is the parent of utilities that have 3.1 million electric, 504,000 gas customers. Supplies power to most of Connecticut and gas to part of Connecticut; supplies power to three fourths of New Hampshire's population; supplies power to western Massachusetts and parts of eastern Massachusetts & gas to central & eastern Massachusetts. Acquired NSTAR 4/12. Electric revenue breakdown: residential, 52%; commercial, 36%; industrial, 5%; other, 7%. Fuel costs: 39% of revenues. '15 reported deprec. rate: 2.9%. Has 8,200 employees. Chairman: Thomas J. May. President & CEO: Jim Judge. Inc.: Massachusetts. Address: 300 Cadwell Drive, Springfield, MA 01104. Tel.: 413-785-5871. Internet: www.eversource.com.

Eversource's utilities in eastern and western Massachusetts are seeking electric rate increases. The utilities filed for a total raise of $96 million, based on a 10.5% return on a 53.3% common-equity ratio. Eversource also wants to combine the two utilities into one entity. New rates will take effect at the start of 2018.

An electric rate case is upcoming in Connecticut. Eversource plans to put forth an application at the start of June, with new tariffs going into effect at the beginning of December.

We estimate solid earnings growth in 2017 and 2018. Eversource benefits from annual investments in electric transmission. Reductions in operating and maintenance expenses are another plus, as are customer conversions from oil heat to gas heat. Rate relief from the aforementioned rate cases should help next year. Our estimates would produce annual profit growth within management's targeted range of 5%-7%.

Eversource is trying to overcome opposition to two major proposed projects. The company has a 40% stake in a $3 billion pipeline to provide a much-needed increase in the gas supply to New England. The Massachusetts Supreme Court ruled that state law prohibits utilities from billing electric customers for pipelines. The original in-service date in 2018 probably won't be met. Also, Eversource wants to build a $1.6 billion transmission line between New Hampshire and Quebec. This project has been delayed, and the projected in-service date is now late 2019.

The board of directors raised the dividend. The increase in the quarterly payout was $0.03 a share (6.7%). Eversource's goal for annual dividend growth is 5%-7%, the same as for earnings growth.

The Massachusetts utilities received permission to build solar capacity. They will construct 62 megawatts this year at an expected cost of $180 million-$200 million.

High-quality Eversource stock has a dividend yield that is about average for a utility. Total return potential to 2020-2022 is also close to the norm for this industry.

Paul E. Debbas, CFA *February 17, 2017*

(A) Dil. EPS. Excl. nonrec. gains (losses): '02, 10¢; '03, (32¢); '04, (7¢); '05, ($1.36); '08, (19¢); '10, 9¢. '13 & '14 EPS don't add due to rounding. Next earnings report due late Feb. (B) Div'ds historically paid late Mar., June, Sept., & Dec. ■ Div'd reinv. plan avail. (C) Incl. def'd chgs. In '15: $22.88/sh. (D) In mill. (E) Rate all'd on com. eq. in MA: (elec) '11, 9.6%; (gas) '16, 9.8%; in CT: (elec.) '15, 9.02%; (gas) '15, 9.5%; in NH: '10, 9.67%; earn. on avg. com. eq., '15: 8.7%. Regul. Clim.: CT, Below Avg.; NH, Avg.; MA, Above Avg.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	80
Earnings Predictability	85

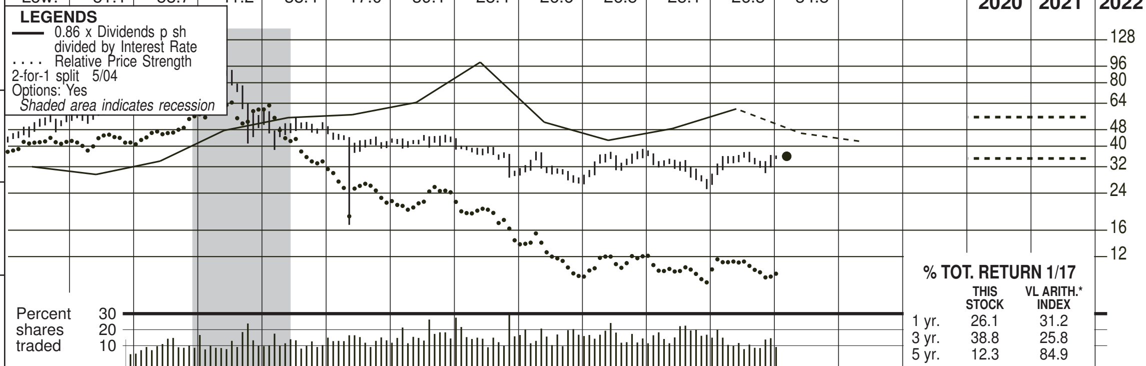
EXELON CORP. NYSE-EXC

RECENT PRICE 35.81 | P/E RATIO 14.0 (Trailing: 20.0 Median: 15.0) | RELATIVE P/E RATIO 0.72 | DIV'D YLD 3.7% | VALUE LINE

TIMELINESS 1 Raised 12/30/16
SAFETY 3 Lowered 11/23/12
TECHNICAL 3 Raised 1/6/17
BETA .70 (1.00 = Market)

High:	63.6	86.8	92.1	59.0	49.9	45.4	43.7	37.8	38.9	38.3	37.7	36.2
Low:	51.1	58.7	41.2	38.4	17.0	39.1	28.4	26.6	26.5	25.1	26.3	34.8

LEGENDS
— 0.86 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 5/04
Options: Yes
Shaded area indicates recession



Target Price Range 2020 | 2021 | 2022

2020-22 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	55	(+55%)	14%
Low	35	(Nil)	4%

Insider Decisions

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

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	375	351	337
to Sell	317	343	336
Hld's(000)	702696	687169	679803

Percent shares traded 30 20 10

% TOT. RETURN 1/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	26.1	31.2
3 yr.	38.8	25.8
5 yr.	12.3	84.9

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
23.58	23.13	24.09	21.85	23.05	23.37	28.62	28.65	26.25	28.17	28.53	27.48	29.03	31.90	32.01	**33.90**	**33.10**	**34.15**	Revenues per sh	**37.00**
5.06	5.03	5.06	5.68	6.19	6.71	7.43	7.64	8.25	8.32	7.23	6.61	6.72	6.61	6.80	**7.85**	**8.70**	**9.05**	"Cash Flow" per sh	**10.00**
2.20	2.40	2.44	2.75	3.21	3.50	4.03	4.10	4.29	3.87	3.75	1.92	2.31	2.10	2.54	1.80	**2.65**	**2.80**	Earnings per sh A	**3.50**
.91	.88	.96	1.26	1.60	1.64	1.82	2.05	2.10	2.10	2.10	2.10	1.46	1.24	1.24	1.26	**1.29**	**1.32**	Div'd Decl'd per sh B ■	**1.70**
3.18	3.33	2.98	2.89	3.25	3.61	4.05	4.74	4.96	5.03	6.09	6.77	6.29	7.07	8.29	**9.25**	**7.35**	**6.40**	Cap'l Spending per sh	**5.75**
12.82	11.97	12.95	14.19	13.69	14.89	15.34	16.78	19.16	20.49	21.68	25.07	26.52	26.29	28.04	**27.90**	**29.60**	**31.55**	Book Value per sh C	**36.75**
642.01	646.63	656.37	664.19	666.37	669.86	660.88	658.15	659.76	661.85	663.37	854.78	857.29	859.83	919.92	**925.00**	**956.00**	**959.00**	Common Shs Outst'g D	**968.00**
13.2	10.5	11.8	13.0	15.4	16.5	18.2	18.0	11.5	11.0	11.3	19.1	13.4	16.0	12.6	18.7	*Bold figures are*		Avg Ann'l P/E Ratio	**13.0**
.68	.57	.67	.69	.82	.89	.97	1.08	.77	.70	.71	1.22	.75	.84	.63	.98	*Value Line*		Relative P/E Ratio	**.80**
3.1%	3.5%	3.4%	3.5%	3.2%	2.8%	2.5%	2.8%	4.3%	4.9%	5.0%	5.7%	4.7%	3.7%	3.9%	3.7%	*estimates*		Avg Ann'l Div'd Yield	**3.8%**

CAPITAL STRUCTURE as of 9/30/16
Total Debt $36051 mill. **Due in 5 Yrs** $12658 mill.
LT Debt $32972 mill. **LT Interest** $1273 mill.
Includes $642 mill. nonrecourse transition bonds.
(LT interest earned: 4.1x)
Leases, Uncapitalized Annual rentals $133 mill.

Pension Assets-12/15 $14347 mill. **Oblig** $17753 mill.
Pfd Stock None

Common Stock 923,270,314 shs.

MARKET CAP: $33 billion (Large Cap)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		20-22
18916	18859	17318	18644	18924	23489	24888	27429	29447	31360	**31650**	**32750**	Revenues ($mill)	**35750**
2730.0	2721.0	2844.0	2567.0	2499.0	1579.0	1999.0	1826.0	2282.0	1739.0	**2500**	**2865**	Net Profit ($mill)	**3330**
34.6%	32.6%	38.8%	39.2%	36.8%	32.4%	36.5%	27.2%	32.2%	**38.0%**	**33.0%**	**33.0%**	Income Tax Rate	**33.0%**
1.8%	1.3%	2.3%	2.1%	3.0%	5.8%	4.5%	5.5%	5.4%	**6.0%**	**4.0%**	**3.0%**	AFUDC % to Net Profit	**3.0%**
53.9%	53.1%	47.2%	46.8%	45.7%	45.8%	44.4%	46.7%	48.3%	**55.5%**	**54.5%**	**51.5%**	Long-Term Debt Ratio	**50.0%**
45.7%	46.6%	52.4%	52.9%	54.0%	53.5%	55.2%	52.8%	51.3%	**44.5%**	**45.5%**	**48.5%**	Common Equity Ratio	**50.0%**
22189	23726	24112	25651	26661	40057	41196	42811	50272	**58000**	**62075**	**62475**	Total Capital ($mill)	**71100**
24153	25813	27341	29941	32570	45186	47330	52087	57439	**71555**	**73300**	**74625**	Net Plant ($mill)	**74500**
14.1%	13.1%	13.3%	11.4%	10.6%	5.1%	5.9%	5.3%	5.5%	**4.0%**	**5.0%**	**5.5%**	Return on Total Cap'l	**6.0%**
26.7%	24.4%	22.3%	18.8%	17.3%	7.3%	8.7%	8.0%	8.8%	**6.5%**	**9.0%**	**9.5%**	Return on Shr. Equity	**9.5%**
26.9%	24.6%	22.5%	18.9%	17.3%	7.3%	8.7%	8.0%	8.8%	**6.5%**	**9.0%**	**9.5%**	Return on Com Equity E	**9.5%**
15.3%	12.5%	11.5%	8.7%	7.7%	NMF	3.2%	3.3%	4.5%	**2.0%**	**4.5%**	**5.5%**	Retained to Com Eq	**4.5%**
43%	49%	49%	54%	56%	109%	63%	59%	49%	**68%**	**49%**	**44%**	All Div'ds to Net Prof	**49%**

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	-.5	-.7	-1.0
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NMF	NMF	NMF
Capacity at Peak (Mw)	NA	NA	NA
Peak Load (Mw)	NA	NA	NA
Nuclear Capacity Factor (%)	94.1	94.3	NA
% Change Customers (yr-end)	+.6	+.6	+1.1
Fixed Charge Cov. (%)	338	263	367

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '20-'22
Revenues	3.0%	2.5%	*2.5%*
"Cash Flow"	1.5%	-3.5%	*6.0%*
Earnings	-2.0%	-10.5%	*5.0%*
Dividends	0.5%	-9.0%	*4.0%*
Book Value	7.0%	7.5%	*4.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	7237	6024	6912	7256	27429
2015	8830	6514	7401	6702	29447
2016	7573	6910	9002	7875	31360
2017	***7950***	***7100***	***8800***	***7800***	***31650***
2018	***8350***	***7400***	***9000***	***8000***	***32750***

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	.10	.68	.96	.35	2.10
2015	.80	.74	.69	.33	2.54
2016	.26	.45	.76	.32	1.80
2017	***.70***	***.66***	***.87***	***.42***	***2.65***
2018	***.74***	***.70***	***.90***	***.46***	***2.80***

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.525	.31	.31	.31	1.46
2014	.31	.31	.31	.31	1.24
2015	.31	.31	.31	.31	1.24
2016	.31	.318	.318	.318	1.26
2017					

BUSINESS: Exelon Corporation is a holding company for Commonwealth Edison, PECO Energy, Baltimore Gas and Electric, Pepco, Delmarva Power, & Atlantic City Electric. Has 8.6 mill. elec., 1.3 mill. gas customers. Has nonregulated generating & energy-marketing ops. Acq'd Constellation Energy 3/12; Pepco Holdings 3/16. Elec. rev. breakdown: res'l, 63%; small comm'l & ind'l, 23%; large comm'l & ind'l, 13%; other, 1%. Generating sources: nuclear, 68%; other, 8%; purch., 24%. Fuel costs: 44% of revs. '15 depr. rates: 2.8%-3.5% elec., 2.2% gas. Has 34,000 empls. Chairman: Mayo A. Shattuck III. Pres. & CEO: Christopher M. Crane. Inc.: PA. Address: 10 S. Dearborn St., P.O. Box 805379, Chicago, IL 60680-5379. Tel.: 312-394-7398. Internet: www.exeloncorp.com.

Exelon will benefit from a new law in Illinois. Low electric prices (a result of low prices of natural gas) and subsidies for wind power had made the company's nuclear plants in the state unprofitable, so management had intended to shut the three units unless a law was passed that would provide subsidies to them. This law will take effect at the start of June. Despite this, we have cut our 2017 earnings estimate by $0.15 a share, to $2.65, because unfavorable conditions in the power markets are affecting the rest of Exelon's merchant generating units.
A similar law in New York is facing legal challenges. Another company, Entergy, had planned to shut a nuclear unit there until the law was enacted. Instead, Exelon will buy the 838-megawatt facility for $110 million. The new law will boost Exelon's profits by $0.08-$0.10 a share, and the plant purchase will contribute another $0.02-$0.08—provided the legal challenges are decided in the company's favor.
The enactment of these laws shows that conditions in the power markets are unfavorable for owners of merchant generating plants. This has persisted since early this decade, and explains why Exelon's profits are well below their level several years ago. This also explains why the company has placed increased emphasis on its regulated utility business in recent years, most notably by acquiring Pepco Holdings last March. Costs associated with this purchase hurt the bottom line in 2016.
The utilities that came with the Pepco purchase are awaiting rate orders. They are underearning their allowed returns on equity by a wide margin. Pepco is seeking an $82.1 million increase in Washington, DC. Delmarva requested electric and gas raises of $62.8 million and $21.5 million, respectively, in Delaware and an electric boost of $57.0 million in Maryland. Each application is based on a 10.6% ROE. Rate relief should benefit earnings this year and next.
This timely stock has a dividend yield that is about equal to the utility average. We think dividend growth will accelerate over the 3- to 5-year period, thanks to a low payout ratio. This should produce a respectable long-term total return.
Paul E. Debbas, CFA *February 17, 2017*

(A) Diluted egs. Excl. nonrec. gain (losses): '03, ($1.06); '05, ($1.85); '06, ($1.15); '09, (20¢); '12, (50¢); '13, (31¢); '14, 23¢; '16, (58¢). '14-'16 EPS don't add due to rounding or chg. in shs. Next egs. report due early May. (B) Div'ds paid in early Mar., June, Sept., & Dec. ■ Div'd reinv. plan avail. (C) Incl. def'd chgs. In '15: $10.02/sh. (D) In mill., adj. for split. (E) Rate all'd on com. eq. in IL in '15: 9.25%; in MD in '16: 9.75% elec., 9.65% gas; in NJ in '16: 9.75%; earn. on avg. com. eq., '15: 9.4%. Reg. Clim.: PA, NJ Avg.; IL, MD, Below Avg.

Company's Financial Strength	B++
Stock's Price Stability	85
Price Growth Persistence	5
Earnings Predictability	60

NORTHWESTERN NYSE-NWE

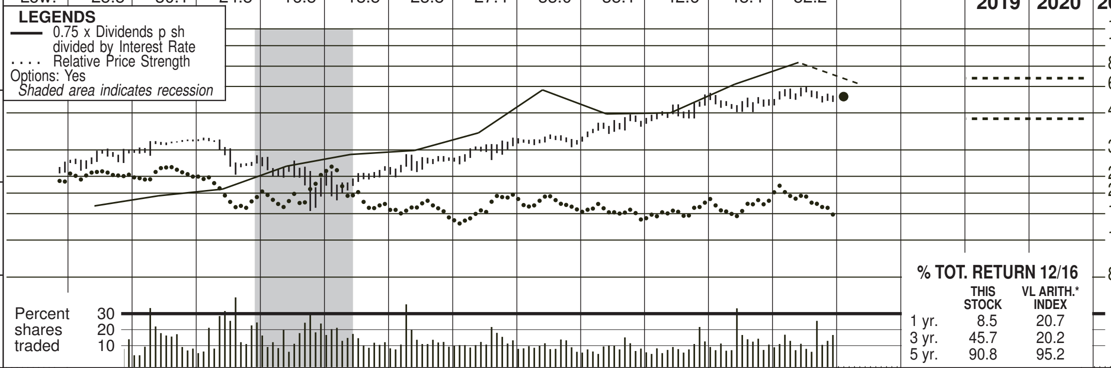
RECENT PRICE 57.34 | P/E RATIO 16.5 (Trailing: 17.0 Median: 16.0) | RELATIVE P/E RATIO 0.83 | DIV'D YLD 3.6% | VALUE LINE

TIMELINESS 3 Raised 12/23/16
SAFETY 3 New 5/4/12
TECHNICAL 3 Raised 12/2/16
BETA .70 (1.00 = Market)

High:	32.5	35.8	36.7	29.7	26.8	30.6	36.6	38.0	47.2	58.7	59.7	63.8
Low:	25.5	30.1	24.5	16.5	18.5	23.8	27.4	33.0	35.1	42.6	48.4	52.2

Target Price Range 2019 | 2020 | 2021

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



2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	70	(+20%)	9%
Low	45	(-20%)	-1%

Insider Decisions

	M	A	M	J	J	A	S	O	N
to Buy	0	0	0	0	0	0	0	0	0
Options	11	0	4	0	0	3	0	0	3
to Sell	3	1	1	2	1	1	1	0	1

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	109	114	105
to Sell	98	98	109
Hld's(000)	49010	48537	47339

% TOT. RETURN 12/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	8.5	20.7
3 yr.	45.7	20.2
5 yr.	90.8	95.2

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
- -	- -	- -	- -	29.18	32.57	31.49	30.79	35.09	31.72	30.66	30.80	28.76	29.80	25.68	25.21	*25.75*	*26.65*	Revenues per sh	*30.25*
- -	- -	- -	- -	3.20	4.00	3.62	3.70	4.40	4.62	4.76	5.42	5.18	5.45	5.39	5.92	*6.60*	*6.85*	"Cash Flow" per sh	*8.00*
- -	- -	- -	- -	d14.32	1.71	1.31	1.44	1.77	2.02	2.14	2.53	2.26	2.46	2.99	2.90	*3.40*	*3.45*	Earnings per sh A	*4.00*
- -	- -	- -	- -	- -	1.00	1.24	1.28	1.32	1.34	1.36	1.44	1.48	1.52	1.60	1.92	2.00	*2.08*	Div'd Decl'd per sh B ■ †	*2.32*
- -	- -	- -	- -	2.25	2.26	2.81	3.00	3.47	5.26	6.30	5.20	5.89	5.95	5.76	5.89	*6.35*	*6.65*	Cap'l Spending per sh	*5.50*
- -	- -	- -	- -	19.92	20.60	20.65	21.12	21.25	21.86	22.64	23.68	25.09	26.60	31.50	33.22	*34.40*	*35.60*	Book Value per sh C	*40.25*
- -	- -	- -	- -	35.60	35.79	35.97	38.97	35.93	36.00	36.23	36.28	37.22	38.75	46.91	48.17	*48.50*	*48.75*	Common Shs Outst'g D	*49.50*
- -	- -	- -	- -	- -	17.1	26.0	21.7	13.9	11.5	12.9	12.6	15.7	16.9	16.2	18.4	*17.1*		Avg Ann'l P/E Ratio	*14.0*
- -	- -	- -	- -	- -	.91	1.40	1.15	.84	.77	.82	.79	1.00	.95	.85	.93	*.90*		Relative P/E Ratio	*.90*
- -	- -	- -	- -	- -	3.4%	3.6%	4.1%	5.4%	5.7%	4.9%	4.5%	4.2%	3.7%	3.3%	3.6%	3.4%		Avg Ann'l Div'd Yield	*4.1%*

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
1132.7	1200.1	1260.8	1141.9	1110.7	1117.3	1070.3	1154.5	1204.9	1214.3	*1250*	*1300*	Revenues ($mill)	*1500*
49.2	53.2	67.6	73.4	77.4	92.6	83.7	94.0	120.7	138.4	*165*	*170*	Net Profit ($mill)	*200*
40.3%	37.8%	37.3%	17.2%	25.0%	9.8%	9.6%	13.2%	13.2%	13.7%	*Nil*	*12.0%*	Income Tax Rate	*20.0%*
3.3%	2.5%	2.3%	7.2%	22.7%	5.4%	15.2%	14.1%	14.4%	16.1%	*9.0%*	*9.0%*	AFUDC % to Net Profit	*5.0%*
49.9%	50.1%	46.8%	56.4%	57.2%	52.2%	53.8%	53.5%	53.4%	53.1%	*54.0%*	*53.0%*	Long-Term Debt Ratio	*50.5%*
50.1%	49.9%	53.2%	43.6%	42.8%	47.8%	46.2%	46.5%	46.6%	46.9%	*46.0%*	*47.0%*	Common Equity Ratio	*49.5%*
1482.2	1648.4	1434.3	1803.9	1916.4	1797.1	2020.7	2215.7	3168.0	3408.6	*3630*	*3700*	Total Capital ($mill)	*4000*
1491.9	1770.9	1839.7	1964.1	2118.0	2213.3	2435.6	2690.1	3758.0	4059.5	*4215*	*4375*	Net Plant ($mill)	*4850*
5.2%	5.0%	7.0%	6.0%	6.0%	7.1%	5.5%	5.5%	4.8%	5.2%	*5.5%*	*6.0%*	Return on Total Cap'l	*6.0%*
6.6%	6.5%	8.9%	9.3%	9.4%	10.8%	9.0%	9.1%	8.2%	8.6%	*10.0%*	*9.5%*	Return on Shr. Equity	*10.0%*
6.6%	6.5%	8.9%	9.3%	9.4%	10.8%	9.0%	9.1%	8.2%	8.6%	*10.0%*	*9.5%*	Return on Com Equity E	*10.0%*
.7%	.7%	2.3%	3.2%	3.5%	4.7%	3.2%	3.5%	3.8%	3.0%	*4.0%*	*4.0%*	Retained to Com Eq	*4.0%*
90%	89%	74%	66%	63%	56%	65%	61%	54%	65%	*59%*	*60%*	All Div'ds to Net Prof	*58%*

CAPITAL STRUCTURE as of 9/30/16
Total Debt $2043.6 mill. **Due in 5 Yrs** $477.6 mill.
LT Debt $1819.4 mill. **LT Interest** $83.7 mill.
Incl. $25.4 mill. capitalized leases.
(LT interest earned: 2.9x)

Pension Assets-12/15 $500.0 mill. **Oblig.** $628.9 mill.
Pfd Stock None

Common Stock 48,327,642 shs.
as of 10/14/16
MARKET CAP: $2.8 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+1.3	+.7	-.1
Avg. Indust. Use (MWH)	29162	28987	30133
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Winter (Mw)	2056	2044	2096
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.7	+1.0	+1.3
Fixed Charge Cov. (%)	217	201	232

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	-1.5%	-3.5%	*2.0%*
"Cash Flow"	4.5%	4.0%	*6.0%*
Earnings	- -	7.0%	*6.5%*
Dividends	13.0%	4.5%	*5.5%*
Book Value	4.0%	7.0%	*5.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	313.0	260.2	262.2	319.1	1154.5
2014	369.7	270.3	251.9	313.0	1204.9
2015	346.0	270.6	272.7	325.0	1214.3
2016	332.5	293.1	301.0	*323.4*	*1250*
2017	*350*	*310*	*310*	*330*	*1300*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	1.01	.37	.40	.68	2.46
2014	1.17	.20	.77	.85	2.99
2015	1.09	.38	.51	.93	2.90
2016	.79	.73	.92	*.96*	*3.40*
2017	*1.10*	*.50*	*.75*	*1.10*	*3.45*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.38	.38	.38	.38	1.52
2014	.40	.40	.40	.40	1.60
2015	.48	.48	.48	.48	1.92
2016	.50	.50	.50	.50	2.00
2017					

BUSINESS: NorthWestern Corporation (doing business as NorthWestern Energy) supplies electricity & gas in the Upper Midwest and Northwest, serving 422,000 electric customers in Montana and South Dakota and 279,000 gas customers in Montana (87% of gross margin), South Dakota (12%), and Nebraska (1%). Electric revenue breakdown: residential, 40%; commercial, 51%; industrial, 5%; other, 4%. Generating sources are not provided by company. Fuel costs: 31% of revenues. '15 reported depreciation rate: 3.3%. Has 1,600 employees. Chairman: Dr. E. Linn Draper Jr. President & CEO: Robert C. Rowe. Incorporated: Delaware. Address: 3010 West 69th Street, Sioux Falls, South Dakota 57108. Telephone: 605-978-2900. Internet: www.northwesternenergy.com.

NorthWestern has a gas rate case pending in Montana. The utility is seeking a return on the capital expenditures and gas reserves it has made since 2012 (the year of its last rate case). NorthWestern filed for a hike of $10.9 million (8.0%), based on a 10.35% return on a 46.8% common-equity ratio. A ruling from the Montana Public Service Commission (MPSC) is expected in mid-2017. The utility is also seeking an interim tariff increase of $5.6 million (4.9%). When the MPSC will rule on the interim request is unknown.

The company has some legal matters pending, as well. NorthWestern has taken the Federal Reserve Energy Commission (FERC) to the U.S. Circuit Court of Appeals. FERC had ruled that just 4% of the cost of a new gas-fired generating facility could be allocated to wholesale customers. NorthWestern wants an allocation of 20%, with the other 80% allocated to the company's customers in Montana. This resulted in a $0.12-a-share charge (included in our earnings presentation) in 2012. A ruling is unlikely before the second half of 2017, and might come much later than that. NorthWestern asked FERC to reconsider, but was unsuccessful. Separately, the utility appealed to the Montana District Court after the MPSC disallowed some costs stemming from a plant outage in 2013. This forced NorthWestern to take a $0.13-a-share charge (included in our presentation) in the first period of 2016. It will likely be several more months—perhaps not until 2018—before a ruling is received.

We estimate that earnings will increase slightly in 2017. NorthWestern should benefit from rate relief and customer growth. Our $3.45-a-share profit estimate is within the company's preliminary guidance of $3.30-$3.50.

We expect a dividend hike in the current quarter. This has been the board's practice. We estimate a raise of two cents a share (4%) in the quarterly payout.

NorthWestern stock has a dividend yield that is about equal to the utility average. With the recent quotation near the midpoint of our 2019-2021 Target Price Range, total return potential over that time frame is unspectacular.

Paul E. Debbas, CFA *January 27, 2017*

(A) Diluted EPS. Excl. gain (loss) on disc. ops.: '05, (6¢); '06, 1¢; nonrec. gains: '12, 39¢ net; '15, 27¢. '15 EPS don't add due to rounding. Next earnings report due mid-Feb. (B) Div'ds historically paid in late Mar., June, Sept. & Dec. ■ Div'd reinvest. plan avail. † Shareholder invest. plan avail. (C) Incl. def'd charges. In '15: $18.16/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate allowed on com. eq. in MT in '14 (elec.): 9.8%; in '13 (gas): 9.8%; in SD in '15: none specified; in NE in '07: 10.4%; earned on avg. com. eq., '15: 9.0%. Regul. Climate: Avg.

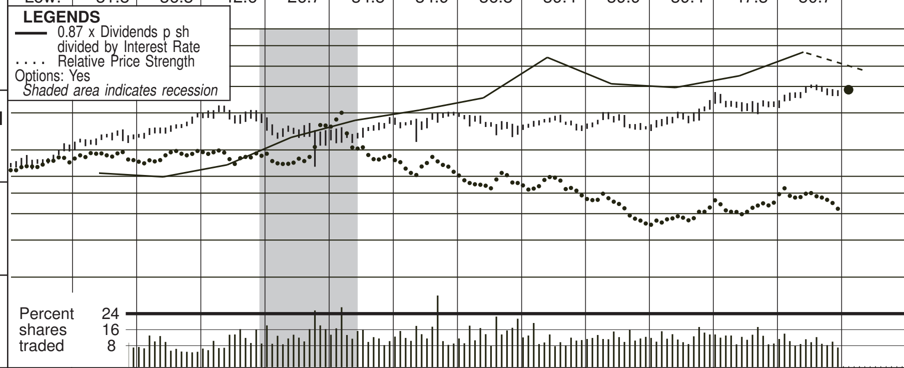
Company's Financial Strength	B+
Stock's Price Stability	95
Price Growth Persistence	85
Earnings Predictability	90

PG&E CORP. NYSE-PCG

RECENT PRICE **61.78** | P/E RATIO **16.2** (Trailing: 35.9; Median: 16.0) | RELATIVE P/E RATIO **0.82** | DIV'D YLD **3.4%** | VALUE LINE

TIMELINESS 2 Raised 12/9/16
SAFETY 3 Lowered 2/3/12
TECHNICAL 3 Raised 1/13/17
BETA .65 (1.00 = Market)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
High:	40.1	48.2	52.2	45.7	45.8	48.6	48.0	47.0	48.5	55.2	60.2	65.4
Low:	31.8	36.3	42.6	26.7	34.5	34.9	36.8	39.4	39.9	39.4	47.3	50.7



Target Price Range

2019	2020	2021

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	80	(+30%)	*10%*
Low	55	(-10%)	*1%*

Insider Decisions

	M	A	M	J	J	A	S	O	N
to Buy	0	0	0	0	0	0	0	0	0
Options	10	0	11	0	0	1	0	0	0
to Sell	2	0	0	0	0	0	0	0	0

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	303	302	250
to Sell	194	200	260
Hld's(000)	409084	404165	405893

% TOT. RETURN 12/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	17.9	20.7
3 yr.	67.5	20.2
5 yr.	76.5	95.2

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
67.75	63.18	32.74	25.05	26.47	31.78	36.02	37.42	40.51	36.15	35.02	36.28	34.92	34.16	35.91	34.21	*33.95*	*34.55*	Revenues per sh	*38.75*
.80	5.66	1.14	4.80	5.71	7.12	7.76	8.02	8.44	8.37	8.22	8.08	7.32	6.33	8.13	7.29	*8.55*	*9.60*	"Cash Flow" per sh	*10.75*
d9.21	3.02	d2.36	2.05	2.12	2.35	2.76	2.78	3.22	3.03	2.82	2.78	2.07	1.83	3.06	2.00	*2.90*	*3.65*	Earnings per sh A	*4.25*
1.20	- -	- -	- -	- -	1.23	1.32	1.44	1.56	1.68	1.82	1.82	1.82	1.82	1.82	1.82	1.93	*2.08*	Div'd Decl'd per sh B ■ †	*2.70*
4.54	7.33	7.94	4.08	3.72	4.90	6.90	7.83	10.05	10.68	9.62	9.79	10.74	11.40	10.16	10.51	*11.25*	*11.65*	Cap'l Spending per sh	*11.50*
8.19	11.89	9.47	10.12	20.62	19.60	22.44	24.18	25.97	27.88	28.55	29.35	30.35	31.41	33.09	33.69	*35.20*	*37.20*	Book Value per sh C	*43.00*
387.19	363.38	381.67	416.52	418.62	368.27	348.14	353.72	361.06	370.60	395.23	412.26	430.72	456.67	475.91	492.03	*507.00*	*515.00*	Common Shs Outst'g D	*530.00*
- -	4.8	- -	9.5	13.8	15.4	14.8	16.8	12.1	13.0	15.8	15.5	20.7	23.7	15.0	26.4	*20.6*		Avg Ann'l P/E Ratio	*15.5*
- -	.25	- -	.54	.73	.82	.80	.89	.73	.87	1.01	.97	1.32	1.33	.79	1.33	*1.10*		Relative P/E Ratio	*.95*
4.8%	- -	- -	- -	- -	3.4%	3.2%	3.1%	4.0%	4.3%	4.1%	4.2%	4.2%	4.2%	4.0%	3.4%	3.2%		Avg Ann'l Div'd Yield	*4.1%*

CAPITAL STRUCTURE as of 9/30/16
Total Debt $17833 mill. **Due in 5 Yrs** $4718 mill.
LT Debt $16528 mill. **LT Interest** $766 mill.
(LT interest earned: 1.8x)
Pension Assets-12/15 $13745 mill.
Oblig. $16299 mill.
Pfd Stock $252 mill. **Pfd Div'd** $14 mill.
4,534,958 shs. 4.36% to 5%, cumulative and $25 par, redeemable from $25.75 to $27.25; 5,784,825 shs. 5.00% to 6.00%, cumulative nonredeemable and $25 par.
Common Stock 505,666,694 shs.
as of 10/24/16
MARKET CAP: $31 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
12539	13237	14628	13399	13841	14956	15040	15598	17090	16833	*17200*	*17800*	Revenues ($mill)	*20600*
1005.0	1020.0	1198.0	1168.0	1113.0	1132.0	893.0	828.0	1450.0	988.0	*1460*	*1910*	Net Profit ($mill)	*2320*
35.5%	34.6%	26.2%	31.1%	33.0%	30.3%	23.9%	24.5%	19.2%	19.2%	*25.0%*	*25.5%*	Income Tax Rate	*27.0%*
6.7%	9.4%	9.5%	11.9%	14.4%	11.2%	17.5%	17.9%	10.0%	15.7%	*11.0%*	*8.0%*	AFUDC % to Net Profit	*7.0%*
51.7%	52.6%	52.2%	51.4%	49.6%	48.8%	48.7%	46.6%	48.5%	48.8%	*49.5%*	*49.0%*	Long-Term Debt Ratio	*48.0%*
46.8%	46.1%	46.5%	47.4%	49.3%	50.2%	50.4%	52.5%	50.7%	50.4%	*49.5%*	*50.5%*	Common Equity Ratio	*51.5%*
16696	18558	20163	21793	22863	24119	25956	27311	31050	32858	*35925*	*37950*	Total Capital ($mill)	*44500*
21785	23656	26261	28892	31449	33655	37523	41252	43941	46723	*49550*	*52500*	Net Plant ($mill)	*60700*
7.6%	7.4%	7.8%	6.7%	6.2%	5.9%	4.7%	4.2%	5.8%	4.1%	*5.0%*	*6.0%*	Return on Total Cap'l	*6.5%*
12.5%	11.6%	12.4%	11.0%	9.6%	9.2%	6.7%	5.7%	9.1%	5.9%	*8.0%*	*10.0%*	Return on Shr. Equity	*10.0%*
12.7%	11.8%	12.6%	11.2%	9.7%	9.2%	6.7%	5.7%	9.1%	5.9%	*8.0%*	*10.0%*	Return on Com Equity E	*10.0%*
6.8%	6.0%	6.8%	5.5%	3.9%	3.4%	1.0%	.2%	3.9%	.7%	*2.5%*	*4.5%*	Retained to Com Eq	*4.0%*
47%	50%	47%	52%	61%	63%	85%	96%	58%	88%	*67%*	*56%*	All Div'ds to Net Prof	*62%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+.5	-.2	-.5
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	9.28	9.98	9.73
Capacity at Peak (Mw)	NMF	NMF	NMF
Peak Load, Summer (Mw)	NMF	NMF	NMF
Annual Load Factor (%)	NMF	NMF	NMF
% Change Customers (yr-end)	+.3	+.6	+.7
Fixed Charge Cov. (%)	223	304	189

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	2.5%	-1.5%	*2.0%*
"Cash Flow"	2.0%	-3.0%	*7.0%*
Earnings	.5%	-5.5%	*11.0%*
Dividends	- -	1.5%	*7.0%*
Book Value	7.0%	3.5%	*4.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	3672	3776	4175	3975	15598
2014	3891	3952	4939	4308	17090
2015	3899	4217	4550	4167	16833
2016	3974	4169	4810	*4247*	*17200*
2017	*4200*	*4400*	*4800*	*4400*	*17800*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.55	.74	.36	.19	1.83
2014	.49	.57	1.71	.27	3.06
2015	.27	.83	.63	.27	2.00
2016	.22	.46	.77	*1.45*	*2.90*
2017	*.85*	*.75*	*1.30*	*.75*	*3.65*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.455	.455	.455	.455	1.82
2014	.455	.455	.455	.455	1.82
2015	.455	.455	.455	.455	1.82
2016	.455	.455	.49	.49	1.89
2017	.49				

BUSINESS: PG&E Corporation is a holding company for Pacific Gas and Electric Company and nonutility subsidiaries. Supplies electricity and gas to most of northern and central California. Has 5.3 million electric and 4.4 million gas customers. Electric revenue breakdown: residential, 38%; commercial, 40%; industrial, 12%; agricultural, 9%; other, 1%. Generating sources: nuclear, 23%; gas, 9%; hydro, 5%; purchased, 63%. Fuel costs: 34% of revenues. '15 reported depreciation rate (utility): 3.8%. Has 23,000 employees. Chairman, President & Chief Executive Officer: Anthony F. Earley, Jr. President & CEO (effective 3/1/17): Geisha J. Williams. Inc.: California. Address: 77 Beale Street, P.O. Box 770000, San Francisco, CA 94177. Tel.: 415-973-1000. Internet: www.pgecorp.com.

PG&E is awaiting an order on its general rate case. The utility reached a contested settlement calling for rate increases of $88 million in 2017, $444 million in 2018, and $361 million in 2019. A hike of $361 million is recommended for 2020, but this is one of the contested issues. An administrative law judge will put forth a proposed decision before the California commission issues its order, which is expected in February. The ruling will be retroactive to the start of the new year.

Earnings should return to a normal level beginning in 2017. Ever since a gas pipeline exploded in San Bruno, California in September of 2010, causing fatalities, injuries, and extensive property damage, the company's income (as we present it) has included charges for unrecovered pipeline safety enhancements, revenue refunds, and related legal costs. (We excluded fines because these are not operational in nature.) PG&E has funded much of this through equity issuances, which is why the share count has risen so sharply since 2010. The company issued an estimated $800 million of common equity last year, and expects to issue $400 million-$600 million in 2017. PG&E has issued 2017 share-earnings guidance of $3.51-$3.80 a share based on GAAP. Our previous forecast of $3.90 was too optimistic, so we have lowered it by $0.25 a share.

A cost-of-capital filing is possible this year. Note that California regulation looks at the cost of capital in proceedings that are separate from general rate cases. In recent years, utilities in California have reached settlements regarding the cost of capital. They will try collectively for an agreement this year; if one isn't reached, they will file cost-of-capital cases in April, with rulings to take effect in 2018.

Now that dividend growth has resumed, increases should come at a healthy pace. Understandably, the board did not raise the disbursement for five years after the San Bruno accident. In 2016, the directors declared a 7.7% boost, and we look for another solid hike this year.

This timely stock has a dividend yield and 3- to 5-year total return potential that are close to the averages for the utility industry.

Paul E. Debbas, CFA *January 27, 2017*

(A) Diluted EPS. Excl. nonrec. gains (losses): '04, $6.95; '09, 18¢; '11, (68¢); '12, (15¢); '15, (21¢); '16, (5¢); gain from disc. ops.: '08, 41¢. '13 EPS don't add due to rounding, '14 due to change in shs. Next earnings report due mid-Feb. **(B)** Div'ds historically paid in mid-Jan., Apr., July, and Oct. ■ Div'd reinvest. plan avail. † Shareholder investment plan avail. **(C)** Incl. intang. In '15: $14.29/sh. **(D)** In mill. **(E)** Rate base: net orig. cost. Rate allowed on com. eq. in '15: 10.4%; earned on avg. com. eq., '15: 6.0%. Regulatory Climate: Average.

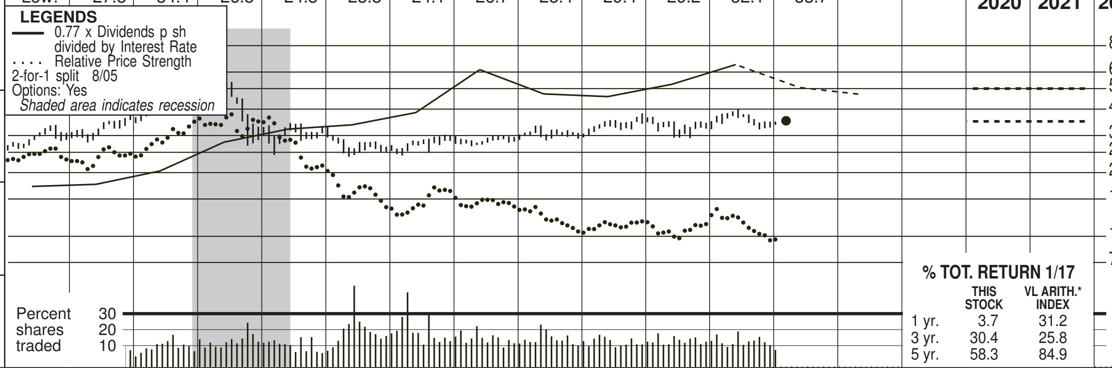
Company's Financial Strength	B+
Stock's Price Stability	95
Price Growth Persistence	35
Earnings Predictability	50

PPL CORPORATION NYSE-PPL

RECENT PRICE	35.24	P/E RATIO	14.8 (Trailing: 12.6 / Median: 14.0)	RELATIVE P/E RATIO	0.76	DIV'D YLD	4.5%	VALUE LINE

TIMELINESS – Suspended 5/22/15
SAFETY 2 Raised 8/21/15
TECHNICAL – Suspended 5/22/15
BETA .70 (1.00 = Market)

High:	37.3	54.6	55.2	34.4	33.1	30.3	30.2	33.6	38.1	36.7	39.9	35.6
Low:	27.8	34.4	26.8	24.3	23.8	24.1	26.7	28.4	29.4	29.2	32.1	33.7



% TOT. RETURN 1/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	3.7	31.2
3 yr.	30.4	25.8
5 yr.	58.3	84.9

2020-22 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	50	(+40%)	13%
Low	35	(Nil)	5%

Insider Decisions

	A	M	J	J	A	S	O	N	D
to Buy	0	0	0	0	0	0	0	0	0
Options	0	1	2	0	0	0	0	0	0
to Sell	0	0	3	2	0	0	0	0	0

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	363	384	339
to Sell	289	283	340
Hld's(000)	493895	475747	471928

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
19.53	16.38	15.75	15.37	16.36	17.92	17.41	21.47	20.03	17.63	22.02	21.11	18.82	17.27	11.38	11.06	*9.85*	*10.00*	Revenues per sh	*10.50*
3.51	3.20	3.60	3.59	3.84	4.26	5.10	4.71	3.47	3.66	4.59	4.84	4.64	4.58	3.78	4.28	*3.75*	*3.90*	"Cash Flow" per sh	*4.50*
1.79	1.54	1.84	1.87	1.92	2.29	2.63	2.45	1.19	2.29	2.61	2.61	2.38	2.38	2.37	2.79	*2.20*	*2.30*	Earnings per sh A	*2.75*
.53	.72	.77	.82	.96	1.10	1.22	1.34	1.38	1.40	1.40	1.44	1.47	1.49	1.50	1.52	*1.58*	*1.64*	Div'd Decl'd per sh B ■	*1.82*
2.99	2.74	2.17	1.94	2.13	3.62	4.51	3.79	3.25	3.30	4.30	5.34	6.68	6.14	5.24	4.30	*4.95*	*4.95*	Cap'l Spending per sh	*3.75*
6.33	6.71	9.19	11.21	11.62	13.30	14.88	13.55	14.57	16.98	18.72	18.01	19.78	20.47	14.72	14.56	*15.45*	*16.40*	Book Value per sh C	*19.75*
293.16	331.47	354.72	378.14	380.15	385.04	373.27	374.58	377.18	483.39	578.41	581.94	630.32	665.85	673.86	679.73	*690.00*	*700.00*	Common Shs Outst'g D	*730.00*
12.4	11.1	10.6	12.5	15.1	14.1	17.3	17.6	25.7	11.9	10.5	10.9	12.8	14.1	13.9	12.8	*Bold figures are*		Avg Ann'l P/E Ratio	*15.0*
.64	.61	.60	.66	.80	.76	.92	1.06	1.71	.76	.66	.69	.72	.74	.70	.67	*Value Line*		Relative P/E Ratio	*.95*
2.4%	4.2%	4.0%	3.5%	3.3%	3.4%	2.7%	3.1%	4.5%	5.1%	5.1%	5.1%	4.8%	4.4%	4.5%	4.2%	*estimates*		Avg Ann'l Div'd Yield	*4.4%*

CAPITAL STRUCTURE as of 9/30/16
Total Debt $19148 mill. **Due in 5 Yrs** $3104 mill.
LT Debt $18069 mill. **LT Interest** $741 mill.
Incl. 23 mill. units 7.75%, $25 liq. value; 82,000 units 8.23%, $1000 face value.
(LT interest earned: 3.7x)

Leases, Uncapitalized Annual rentals $33 mill.
Pension Assets-12/15 $10852 mill. **Oblig** $12267 mill.
Pfd Stock None
Common Stock 679,627,323 shs.
as of 10/26/16
MARKET CAP: $24 billion (Large Cap)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		20-22
6498.0	8044.0	7556.0	8521.0	12737	12286	11860	11499	7669.0	7517.0	*6800*	*7000*	Revenues ($mill)	*7600*
1031.0	940.0	465.0	1009.0	1456.0	1536.0	1541.0	1583.0	1603.0	1902.0	*1510*	*1625*	Net Profit ($mill)	*2015*
20.7%	31.8%	21.8%	22.0%	31.0%	26.2%	23.1%	33.0%	22.5%	25.4%	*27.0%*	*30.0%*	Income Tax Rate	*30.0%*
- -	.1%	9.5%	3.5%	4.0%	4.1%	3.7%	2.8%	1.6%	*1.0%*	*2.0%*	*2.0%*	AFUDC % to Net Profit	*1.0%*
54.1%	57.1%	55.2%	59.0%	61.9%	64.1%	62.3%	58.0%	65.2%	64.3%	*63.5%*	*63.0%*	Long-Term Debt Ratio	*58.0%*
43.6%	40.5%	42.5%	39.8%	37.2%	35.9%	37.7%	42.0%	34.8%	35.7%	*36.5%*	*37.0%*	Common Equity Ratio	*42.0%*
12747	12529	12940	20621	29071	29205	33058	32484	28482	27707	*29325*	*31025*	Total Capital ($mill)	*34300*
12605	12416	13174	20858	27266	30032	33087	34597	30382	30074	*32450*	*34800*	Net Plant ($mill)	*40000*
9.8%	9.2%	5.2%	6.1%	6.5%	7.0%	6.2%	6.5%	7.1%	*8.5%*	*6.5%*	*6.5%*	Return on Total Cap'l	*7.5%*
17.6%	17.5%	8.0%	11.9%	13.1%	14.7%	12.4%	11.6%	16.2%	19.2%	*14.0%*	*14.0%*	Return on Shr. Equity	*14.0%*
18.2%	18.2%	8.1%	12.0%	13.3%	14.6%	12.4%	11.6%	16.2%	19.2%	*14.0%*	*14.0%*	Return on Com Equity E	*14.0%*
10.0%	8.5%	NMF	5.2%	6.4%	6.7%	5.3%	4.5%	6.0%	8.8%	*4.0%*	*4.0%*	Retained to Com Eq	*5.0%*
46%	54%	115%	58%	52%	54%	57%	61%	63%	54%	*72%*	*70%*	All Div'ds to Net Prof	*66%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+1.2	-1.1	-.5
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Winter (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	288	309	321

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '20-'22
Revenues	- -	-4.5%	*NMF*
"Cash Flow"	1.5%	2.0%	*NMF*
Earnings	2.5%	4.0%	*NMF*
Dividends	5.5%	1.5%	*3.0%*
Book Value	5.5%	4.0%	*NMF*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	1194	2833	3449	4023	11499
2015	2230	1781	1878	1780	7669
2016	2011	1785	1889	1832	7517
2017	*1900*	*1600*	*1700*	*1600*	*6800*
2018	*1950*	*1650*	*1750*	*1650*	*7000*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	.50	.32	.73	.82	2.38
2015	.82	.37	.59	.60	2.37
2016	.71	.71	.69	.68	2.79
2017	*.70*	*.45*	*.55*	*.50*	*2.20*
2018	*.70*	*.50*	*.55*	*.55*	*2.30*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.36	.3675	.3675	.3675	1.46
2014	.3675	.3725	.3725	.3725	1.49
2015	.3725	.3725	.3725	.3775	1.50
2016	.3775	.38	.38	.38	1.52
2017	.38	.395			

BUSINESS: PPL Corporation (formerly PP&L Resources, Inc.) is a holding company for PPL Electric Utilities (formerly Pennsylvania Power & Light Company), which distributes electricity to 1.4 million customers in eastern & central PA. Acq'd Kentucky Utilities and Louisville Gas and Electric (1.2 million customers) 11/10. Has electric distribution sub. in U.K. (7.8 million customers). Sold gas distribution subsidiary in '08. Spun off power generating subsidiary in '15. The company no longer breaks out data on electric operating statistics. Fuel costs: 22% of revs. '15 reported deprec. rate: 2.6%. Has 12,800 employees. Chairman, President & CEO: William H. Spence. Inc.: PA. Address: Two North Ninth St., Allentown, PA 18101-1179. Tel.: 800-345-3085. Internet: www.pplweb.com.

PPL Corporation's earnings will probably decline this year. The company has exposure to the British pound through its ownership of electric utilities in the United Kingdom. A negative factor will be the absence of a settlement of currency contracts in 2016, which boosted the bottom line by $0.30 a share. In addition, the hedged exchange rate for 2017 will be lower than it was last year. (Note that PPL has hedged the exchange rate to as low as $0.90/£ through 2019.) Some tax benefits booked in 2016 are not expected to recur. And average shares outstanding will be higher, as PPL plans to issue about $350 million of common equity annually through 2020 to finance its increased capital budget. Our 2017 earnings estimate is within PPL's targeted range of $2.05-$2.25 a share. Despite the expectation of lower earnings . . .

The board of directors raised the dividend. The increase was $0.06 a share (3.9%) yearly, payable in early April. PPL is projecting similar annual dividend growth through 2020.

We forecast a partial profit recovery in 2018. The utilities in Kentucky expect to obtain rate hikes in mid-2017 (see below), so the company will book a full year's effect of rate relief in 2018. Also, PPL's utilities benefit from regulatory mechanisms that provide recovery of 70% of the company's capital spending within six months. PPL's goal is 5%-6% annual earnings growth beginning next year, and our 2018 forecast of $2.30 would produce an increase that approaches this range.

PPL's utilities in Kentucky have rate cases pending. Kentucky Utilities is seeking an electric rate hike of $103.1 million (6.4%). Louisville Gas and Electric filed for electric and gas increases of $93.6 million (8.5%) and $13.8 million (4.2%), respectively. The applications are based on a 10.23% return on equity. New tariffs are expected to take effect in mid-2017.

The dividend yield of PPL stock is a percentage point above the utility average. Total return potential to 2020-2022 is also above average for the industry. The stock is unranked for Timeliness due to the spinoff of PPL's nonregulated operations in 2015, which made year-to-year earnings comparisons misleading.

Paul E. Debbas, CFA *February 17, 2017*

(A) Dil. EPS. Excl. nonrec. gain (losses): '07, (12¢); '10, (8¢); '11, 8¢; '13, (62¢); gains (losses) on disc. ops.: '07, 19¢; '08, 3¢; '09, (10¢); '10, (4¢); '12, (1¢); '14, 23¢; '15, ($1.36). '14 & '15 EPS don't sum to rounding. Next earnings report due early May. (B) Div'ds historically paid in early Jan., Apr., July, & Oct. ■ Div'd reinv. plan avail. (C) Incl. intang. In '15: $8.85/sh. (D) In mill., adj. for split. (E) Rate base: Fair val. Rate all'd on com. eq. in PA in '16: none spec.; in KY in '15: none spec.; earn. on avg. com. eq., '15: 13.0%. Reg. Clim.: Avg.

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	10
Earnings Predictability	65

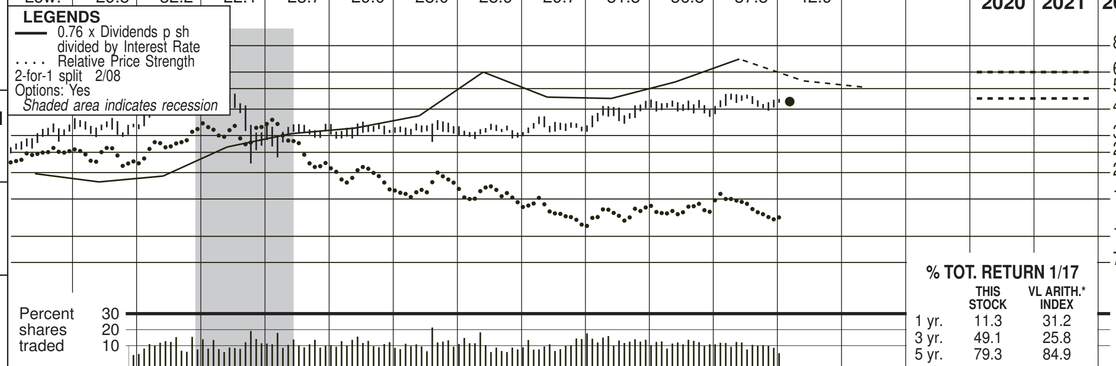
P.S. ENTERPRISE GP. NYSE-PEG

RECENT PRICE 43.45 | P/E RATIO 15.2 (Trailing: 15.3; Median: 13.0) | RELATIVE P/E RATIO 0.78 | DIV'D YLD 4.0% | VALUE LINE

TIMELINESS 2 Raised 8/12/16
SAFETY 1 Raised 11/23/12
TECHNICAL 3 Raised 2/10/17
BETA .70 (1.00 = Market)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
High:	36.3	49.9	52.3	34.1	34.9	35.5	34.1	37.0	43.8	44.4	47.4	44.7
Low:	29.5	32.2	22.1	23.7	29.0	28.0	28.9	29.7	31.3	36.8	37.8	42.9

Target Price Range
2020 2021 2022



2020-22 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	60	(+40%)	*12%*
Low	45	(+5%)	*5%*

Insider Decisions

	A	M	J	J	A	S	O	N	D
to Buy	0	0	0	0	0	0	0	0	0
Options	1	1	1	1	1	1	1	1	1
to Sell	1	4	2	1	2	1	1	1	1

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	333	314	280
to Sell	284	294	299
Hld's(000)	341192	333293	326956

% TOT. RETURN 1/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	11.3	31.2
3 yr.	49.1	25.8
5 yr.	79.3	84.9

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
23.84	18.62	23.54	23.09	24.74	24.07	25.28	27.94	24.57	23.31	22.42	19.33	19.71	21.52	20.61	*18.30*	*18.60*	*18.95*	Revenues per sh	*21.75*
3.14	3.01	2.92	3.02	3.42	3.91	4.36	4.68	4.98	5.27	5.36	4.87	5.17	5.82	6.15	*5.85*	*6.15*	*6.40*	"Cash Flow" per sh	*7.75*
1.85	1.88	1.88	1.52	1.79	1.85	2.59	2.90	3.08	3.07	3.11	2.44	2.45	2.99	3.30	*2.75*	*2.85*	*2.90*	Earnings per sh A	*3.50*
1.08	1.08	1.08	1.10	1.12	1.14	1.17	1.29	1.33	1.37	1.37	1.42	1.44	1.48	1.56	1.64	*1.72*	*1.80*	Div'd Decl'd per sh B ■†	*2.10*
4.99	4.03	2.86	2.64	2.04	2.01	2.65	3.50	3.55	4.27	4.12	5.09	5.56	5.58	7.65	*7.30*	*6.90*	*6.15*	Cap'l Spending per sh	*5.25*
10.05	8.85	11.71	12.05	11.99	13.35	14.35	15.36	17.37	19.04	20.30	21.31	22.95	24.09	25.86	*26.00*	*26.05*	*27.20*	Book Value per sh C	*31.25*
411.68	450.53	472.27	476.20	502.33	505.29	508.52	506.02	505.99	505.97	505.95	505.89	505.86	505.84	505.28	*506.00*	*506.00*	*506.00*	Common Shs Outst'g D	*506.00*
12.0	10.0	10.6	14.3	16.5	17.8	16.5	13.6	10.0	10.4	10.4	12.8	13.5	12.6	12.4	*15.8*	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*15.0*
.61	.55	.60	.76	.88	.96	.88	.82	.67	.66	.65	.81	.76	.66	.62	*.85*			Relative P/E Ratio	*.95*
4.9%	5.7%	5.4%	5.1%	3.8%	3.5%	2.7%	3.3%	4.3%	4.3%	4.2%	4.6%	4.4%	3.9%	3.8%	3.8%			Avg Ann'l Div'd Yield	*4.0%*

CAPITAL STRUCTURE as of 9/30/16
Total Debt $10952 mill. **Due in 5 Yrs** $3755 mill.
LT Debt $10697 mill. **LT Interest** $428 mill.
(LT interest earned: 7.6x)

Leases, Uncapitalized Annual rentals $29 mill.

Pension Assets-12/15 $5039 mill. **Oblig** $5522 mill.

Pfd Stock None

Common Stock 505,896,218 shs.
as of 10/18/16
MARKET CAP: $22 billion (Large Cap)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		20-22
12853	14139	12431	11793	11343	9781.0	9968.0	10886	10415	*9250*	*9400*	*9600*	Revenues ($mill)	*11000*
1323.0	1477.0	1567.0	1557.0	1577.0	1239.0	1243.0	1518.0	1679.0	*1400*	*1465*	*1490*	Net Profit ($mill)	*1805*
44.5%	45.9%	42.3%	40.5%	40.4%	36.2%	39.5%	38.2%	37.4%	*36.5%*	*37.0%*	*37.0%*	Income Tax Rate	*37.0%*
2.7%	3.2%	3.8%	5.5%	2.7%	4.8%	4.6%	4.5%	5.5%	*5.0%*	*5.0%*	*4.0%*	AFUDC % to Net Profit	*4.0%*
54.0%	50.5%	46.3%	44.8%	42.1%	38.3%	40.4%	40.4%	40.3%	*42.0%*	*43.5%*	*44.5%*	Long-Term Debt Ratio	*47.0%*
45.5%	49.0%	53.2%	55.2%	57.9%	61.7%	59.6%	59.6%	59.7%	*58.0%*	*56.5%*	*55.5%*	Common Equity Ratio	*53.0%*
16041	15856	16513	17452	17731	17467	19470	20446	21900	*22575*	*23325*	*24700*	Total Capital ($mill)	*29700*
13275	14433	15440	16390	17849	19736	21645	23589	26539	*28400*	*29750*	*31150*	Net Plant ($mill)	*32900*
10.4%	11.2%	11.0%	10.4%	10.2%	8.1%	7.5%	8.4%	8.6%	*7.0%*	*7.0%*	*7.0%*	Return on Total Cap'l	*7.0%*
17.9%	18.8%	17.7%	16.2%	15.4%	11.5%	10.7%	12.5%	12.9%	*10.5%*	*11.0%*	*11.0%*	Return on Shr. Equity	*11.5%*
18.1%	19.0%	17.8%	16.2%	15.4%	11.5%	10.7%	12.5%	12.9%	*10.5%*	*11.0%*	*11.0%*	Return on Com Equity E	*11.5%*
9.9%	10.5%	10.1%	9.0%	8.6%	4.8%	4.4%	6.3%	6.8%	*4.5%*	*4.5%*	*4.0%*	Retained to Com Eq	*4.5%*
45%	45%	43%	45%	44%	58%	59%	49%	47%	*59%*	*59%*	*61%*	All Div'ds to Net Prof	*59%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	-.9	-1.3	+2.4
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH(¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	10414	9474	9595
Annual Load Factor (%)	NA	NA	NA
% Change Customers (avg.)	NA	NA	NA
Fixed Charge Cov. (%)	529	635	705

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '20-'22
Revenues	-1.5%	-4.0%	*1.0%*
"Cash Flow"	6.0%	3.0%	*4.5%*
Earnings	5.5%	-.5%	*2.5%*
Dividends	3.0%	2.5%	*5.0%*
Book Value	7.5%	7.0%	*3.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	3223	2249	2641	2773	10886
2015	3135	2314	2688	2278	10415
2016	2616	1905	2450	*2279*	*9250*
2017	*2700*	*1950*	*2500*	*2250*	*9400*
2018	*2750*	*2000*	*2550*	*2300*	*9600*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	.76	.42	.87	.94	2.99
2015	1.15	.68	.87	.60	3.30
2016	.93	.37	.94	*.51*	*2.75*
2017	*.95*	*.60*	*.80*	*.50*	*2.85*
2018	*1.00*	*.60*	*.80*	*.50*	*2.90*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.36	.36	.36	.36	1.44
2014	.37	.37	.37	.37	1.48
2015	.39	.39	.39	.39	1.56
2016	.41	.41	.41	.41	1.64
2017					

BUSINESS: Public Service Enterprise Group Incorporated is a holding company for Public Service Electric and Gas Company (PSE&G), which serves 2.2 million electric and 1.8 million gas customers in New Jersey, and PSEG Power LLC, a nonregulated power generator with nuclear, gas, and coal-fired plants in the Northeast. PSEG Energy Holdings is involved in renewable energy. The company no longer breaks out data on electric and gas operating statistics. Fuel costs: 31% of revenues. '15 reported depreciation rate (utility): 2.5%. Has 12,700 employees. Chairman, President & Chief Executive Officer: Dr. Ralph Izzo. Inc.: New Jersey. Address: 80 Park Plaza, P.O. Box 1171, Newark, New Jersey 07101-1171. Telephone: 973-430-7000. Internet: www.pseg.com.

Public Service Enterprise Group's utility subsidiary has become the main source of income—and earnings growth — for the company. Several years ago, this was not the case. PSEG's main nonutility subsidiary, PSEG Power, generated the bulk of corporate profits. That was when conditions in the power markets were more favorable for owners of merchant (i.e., noncontracted) generating assets than they are today. PSEG Power has managed well through the downturn, but has not been immune to difficult market conditions. On the other hand, Public Service Electric and Gas' investments in transmission and distribution infrastructure are expanding the utility's rate base. PSE&G has a storm-hardening program that was developed after Hurricane Sandy hit the service area in the fall of 2012. Most of these expenditures are recoverable in rates concurrently, which lessens the effects of regulatory lag. Electric transmission is a key growth area for the utility. The allowed return on equity for transmission is greater than that for distribution.

This is not to say that there is no growth at PSEG Power. This unit will spend an estimated $1.975 billion-$2.125 billion on three gas-fired facilities (1,780 megawatts in all) in Maryland, New Jersey, and Connecticut. The plants will come on line in 2018 and 2019.

PSE&G received a rate increase at the start of the new year, and another filing will occur at the start of November. Every year, the utility's transmission business receives rate relief from the Federal Energy Regulatory Commission through a forward-looking formula rate plan. This year's increase is $121 million. PSE&G will file an electric and gas rate case in November, in which it will seek recovery of costs that aren't subject to regulatory tracking mechanisms.

We think the board of directors raised the dividend shortly after this report went to press. We estimate a boost of two cents a share (4.9%) quarterly, the same hike as in each of the past two years.

This timely stock is suitable for conservative utility investors. It has our top rank for Safety. The dividend yield and 3- to 5-year total return potential are each above the utility averages.

Paul E. Debbas, CFA *February 17, 2017*

(A) Diluted EPS. Excl. nonrecur. gain (losses): '02, ($1.30); '05, (3¢); '06, (35¢); '08, (96¢); '09, 6¢; '11, (34¢); '12, 7¢; '16, (30¢); gains (loss) from disc. ops.: '05, (33¢); '06, 12¢; '07, 3¢; '08, 40¢; '11, 13¢. Next egs. report due late Feb. **(B)** Div'ds histor. paid in late Mar., June, Sept., and Dec. ■ Div'd reinvestment plan avail. † Shareholder investment plan avail. **(C)** Incl. intang. In '15: $6.56/sh. **(D)** In mill., adj. for split. **(E)** Rate base: Net orig. cost. Rate allowed on com. eq. in '10: 10.3%; earned on avg. com. eq., '15: 13.2%. Reg. Climate: Avg.

Company's Financial Strength	A++
Stock's Price Stability	95
Price Growth Persistence	20
Earnings Predictability	65

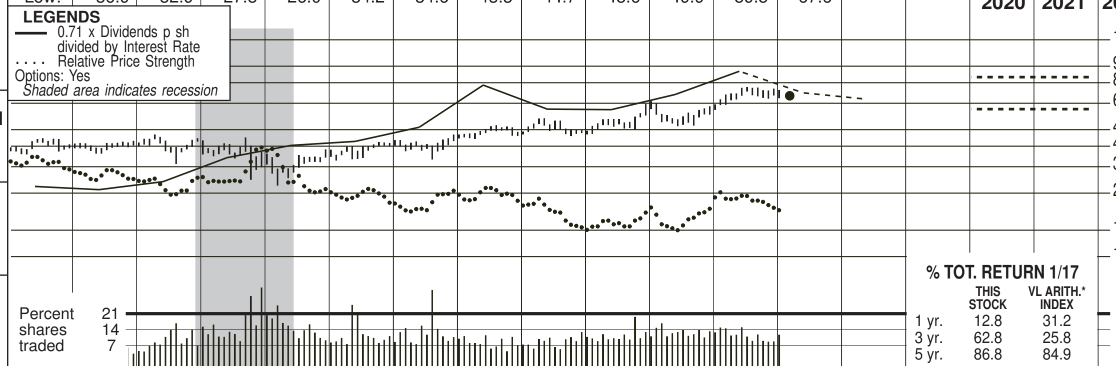
SCANA CORP. NYSE-SCG

RECENT PRICE **69.49** | P/E RATIO **17.1** (Trailing: 17.5 Median: 14.0) | RELATIVE P/E RATIO **0.88** | DIV'D YLD **3.5%** | VALUE LINE

TIMELINESS 3 Lowered 1/20/17
SAFETY 2 Lowered 9/10/99
TECHNICAL 1 Raised 2/10/17
BETA .65 (1.00 = Market)

High:	42.4	45.5	44.1	38.6	42.0	45.5	50.3	54.4	63.4	65.6	76.4	74.1
Low:	36.9	32.9	27.8	26.0	34.2	34.6	43.3	44.7	45.6	49.9	59.5	67.6

Target Price Range
2020 | 2021 | 2022



2020-22 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	85	(+20%)	9%
Low	60	(-15%)	1%

Insider Decisions

	A	M	J	J	A	S	O	N	D
to Buy	0	0	0	0	0	0	0	0	0
Options	2	0	1	2	2	0	2	0	0
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	255	241	201
to Sell	172	203	215
Hld's(000)	95492	93877	92291

% TOT. RETURN 1/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	12.8	31.2
3 yr.	62.8	25.8
5 yr.	86.8	84.9

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
32.95	26.65	30.85	34.53	41.66	39.11	39.61	45.16	34.35	36.10	33.95	31.63	31.88	34.70	30.65	*28.70*	*29.05*	*30.00*	Revenues per sh	*33.50*
4.55	4.56	4.95	5.28	7.43	5.68	5.73	5.86	5.63	5.91	6.01	6.30	6.53	6.91	6.70	*7.05*	*7.35*	*7.55*	"Cash Flow" per sh	*9.00*
2.15	2.38	2.50	2.67	2.78	2.59	2.74	2.95	2.85	2.98	2.97	3.15	3.39	3.79	3.81	*4.00*	*4.15*	*4.35*	Earnings per sh A	*5.00*
1.20	1.30	1.38	1.46	1.56	1.68	1.76	1.84	1.88	1.90	1.94	1.98	2.03	2.10	2.18	2.30	*2.42*	*2.54*	Div'd Decl'd per sh B ■ †	*2.90*
4.99	6.41	6.94	4.86	3.38	4.52	6.21	7.68	7.41	6.87	6.81	8.16	7.84	7.65	8.07	*11.55*	*15.45*	*11.70*	Cap'l Spending per sh	*8.75*
20.95	19.64	20.82	21.78	23.35	24.39	25.37	25.85	27.63	29.05	29.94	31.47	33.08	34.95	38.09	*39.80*	*41.60*	*43.70*	Book Value per sh C	*50.00*
104.73	110.83	110.74	112.52	114.67	116.67	116.67	117.78	123.34	127.45	129.88	132.01	141.00	142.70	142.90	*142.90*	*142.90*	*145.00*	Common Shs Outst'g D	*149.00*
12.6	12.2	13.0	13.6	14.4	15.4	15.0	12.7	11.6	12.9	13.7	14.8	14.4	13.7	14.7	*17.5*	*Bold figures are*		Avg Ann'l P/E Ratio	*14.5*
.65	.67	.74	.72	.77	.83	.80	.76	.77	.82	.86	.94	.81	.72	.74	*.90*	*Value Line*		Relative P/E Ratio	*.90*
4.4%	4.5%	4.2%	4.0%	3.9%	4.2%	4.3%	4.9%	5.7%	4.9%	4.8%	4.2%	4.2%	4.1%	3.9%	3.3%	*estimates*		Avg Ann'l Div'd Yield	*4.0%*

CAPITAL STRUCTURE as of 9/30/16
Total Debt $7367 mill. **Due in 5 Yrs** $2009 mill.
LT Debt $6472 mill. **LT Interest** $355 mill.
(LT interest earned: 3.6x)

Leases, Uncapitalized Annual rentals $10 mill.
Pension Assets-12/15 $781.7 mill.
Oblig $855.4 mill.
Pfd Stock None

Common Stock 142,916,917 shs.
as of 10/31/16
MARKET CAP: $9.9 billion (Large Cap)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		20-22
4621.0	5319.0	4237.0	4601.0	4409.0	4176.0	4495.0	4951.0	4380.0	*4100*	*4150*	*4350*	Revenues ($mill)	*5000*
327.0	353.0	357.0	376.0	387.0	420.0	471.0	538.0	544.0	*575*	*600*	*630*	Net Profit ($mill)	*750*
29.2%	35.4%	32.0%	29.8%	30.3%	30.2%	32.1%	31.6%	31.8%	*32.0%*	*32.0%*	*32.0%*	Income Tax Rate	*33.0%*
4.6%	8.5%	14.3%	8.0%	5.4%	7.6%	8.7%	9.1%	7.7%	*8.0%*	*10.0%*	*8.0%*	AFUDC % to Net Profit	*3.0%*
48.4%	58.0%	56.8%	52.9%	54.3%	54.4%	53.6%	52.6%	51.9%	*53.5%*	*53.5%*	*56.5%*	Long-Term Debt Ratio	*53.5%*
49.7%	40.5%	43.2%	47.1%	45.7%	45.6%	46.4%	47.4%	48.1%	*46.5%*	*46.5%*	*43.5%*	Common Equity Ratio	*45.5%*
5952.0	7519.0	7891.0	7854.0	8511.0	9103.0	10059	10518	11325	*12175*	*12750*	*14525*	Total Capital ($mill)	*16000*
7538.0	8305.0	9009.0	9662.0	10047	10896	11643	12232	13425	*14650*	*16400*	*17625*	Net Plant ($mill)	*20100*
7.3%	6.2%	6.1%	6.5%	6.2%	6.3%	6.2%	6.6%	6.2%	*6.0%*	*6.0%*	*6.0%*	Return on Total Cap'l	*6.0%*
10.6%	11.2%	10.5%	10.2%	10.0%	10.1%	10.1%	10.8%	10.0%	*10.0%*	*10.0%*	*10.0%*	Return on Shr. Equity	*10.0%*
10.8%	11.4%	10.2%	10.2%	10.0%	10.1%	10.1%	10.8%	10.0%	*10.0%*	*10.0%*	*10.0%*	Return on Com Equity E	*10.0%*
4.0%	4.4%	3.6%	3.8%	3.6%	3.9%	4.1%	4.9%	4.3%	*4.5%*	*4.5%*	*4.0%*	Retained to Com Eq	*4.5%*
64%	62%	66%	63%	64%	61%	60%	55%	57%	*57%*	*58%*	*58%*	All Div'ds to Net Prof	*57%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+.3	+4.7	-.9
Avg. Indust. Use (MWH)	8180	NA	NA
Avg. Indust. Revs. per KWH (¢)	7.27	NA	NA
Capacity at Yearend (Mw)	5237	5237	5234
Peak Load, Summer (Mw)	4574	4853	4970
Annual Load Factor (%)	58.8	NA	NA
% Change Customers (yr-end)	+1.2	+1.4	+1.5
Fixed Charge Cov. (%)	293	307	323

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '20-'22
Revenues	-1.0%	-3.5%	*.5%*
"Cash Flow"	1.5%	3.0%	*4.5%*
Earnings	3.5%	4.5%	*4.5%*
Dividends	3.5%	2.5%	*4.5%*
Book Value	5.0%	5.0%	*5.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	1590	1026	1121	1214	4951.0
2015	1389	967	1068	956	4380.0
2016	1172	905	1093	*930*	*4100*
2017	*1200*	*950*	*1000*	*1000*	*4150*
2018	*1250*	*1000*	*1050*	*1050*	*4350*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	1.37	.68	1.01	.73	3.79
2015	1.39	.69	1.04	.69	3.81
2016	1.23	.74	1.32	*.71*	*4.00*
2017	*1.35*	*.75*	*1.25*	*.80*	*4.15*
2018	*1.40*	*.80*	*1.30*	*.85*	*4.35*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.495	.5075	.5075	.5075	2.02
2014	.5075	.525	.525	.525	2.08
2015	.525	.545	.545	.545	2.16
2016	.545	.575	.575	.575	2.27
2017	.575				

BUSINESS: SCANA Corporation is a holding company for South Carolina Electric & Gas Company, which supplies electricity to 707,000 customers in central, southern, and southwestern South Carolina. Supplies gas service to 1.3 million customers in North Carolina, South Carolina, and Georgia. Electric revenue breakdown: residential, 44%; commercial, 33%; industrial, 18%; other, 5%. Generating sources: coal, 48%; oil & gas, 28%; nuclear, 19%; hydro, 3%; purchased, 2%. Fuel costs: 46% of revenues. '15 reported depreciation rate: 2.6%. Has 5,800 employees. Chairman, CEO & President: Kevin B. Marsh. Incorporated: South Carolina. Address: 100 SCANA Parkway, Cayce, South Carolina 29033. Telephone: 803-217-9000. Internet: www.scana.com.

SCANA's electric utility subsidiary has fixed the price of the two nuclear units under construction. Units 2 and 3 of the Summer plant are expected to come on line in August of 2019 and August of 2020. The project has had delays and cost overruns, so last fall South Carolina Electric & Gas chose to exercise its option to fix the cost at $7.658 billion. This represented an increase of $831 million, but reduced uncertainty about the project. Any excess costs will be absorbed by the contractor, Westinghouse. However . . .

There is still some risk associated with the project. Toshiba, the parent of Westinghouse, is experiencing financial troubles and has had its credit ratings downgraded by the rating agencies. If problems arise that make Westinghouse unable to complete construction, SCE&G has contingency plans and some forms of protection, such as surety bonds. In any case, the market appears to be taking the construction risks in stride. SCANA stock's 25.0% total return in 2016 put the equity in the upper half for the electric utility industry, and exceeded the group median of 18.7%.

Rate relief should enable earnings to climb in 2017 and 2018. Every year, SCE&G receives a rate hike under the state's Base Load Review Act for its construction work in progress for the aforementioned nuclear units. The most recent increase was $64.4 million (2.7%), last November. This year, SCE&G and PSNC Energy will have a full year's benefit of the gas rate increases that took effect in November of 2016.

We think the board of directors raised the dividend shortly after this report went to press. In recent years, the board has reviewed the dividend in mid-February. We estimate an increase of $0.03 a share (5.2%), the same hike as a year ago, effective with the April payment. SCANA is targeting a payout ratio in a range of 55%-60%.

SCANA stock has a valuation that is typical for a utility. The dividend yield is near the industry average. Like most utility issues, the recent quotation is within our 3- to 5-year Target Price Range. Total return potential over that time frame is also average for the group.

Paul E. Debbas, CFA *February 17, 2017*

(A) Diluted earnings. Excl. nonrecurring gains (losses): '01, $3.00; '02, ($3.72); '03, 31¢; '04, (23¢); '05, 3¢; '06, 9¢; '15, $1.41. Next earnings report due late April. (B) Div'ds historically paid in early Jan., Apr., July, & Oct. ■ Div'd reinvestment plan available. † Shareholder investment plan available. (C) Incl. intangibles. In '15: $13.55/sh. (D) In millions. (E) Rate base: Net original cost. Rate allowed on com. eq. in SC: 10.25% elec. in '13, 10.25% gas in '05; in NC: 9.7% in '16; earned on avg. com. eq., '15: 10.6%. Regulatory Climate: Above Average.

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	55
Earnings Predictability	100

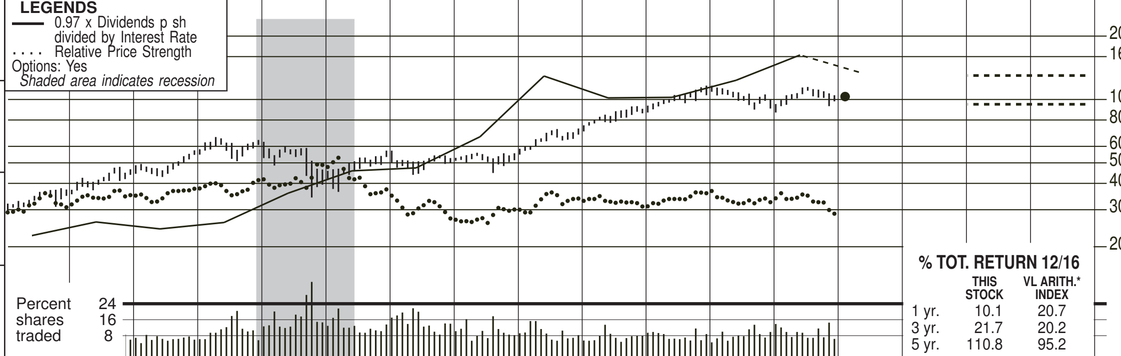
SEMPRA ENERGY NYSE-SRE

RECENT PRICE 103.40 | P/E RATIO 20.2 (Trailing: 25.7 / Median: 13.0) | RELATIVE P/E RATIO 1.02 | DIV'D YLD 3.2% | VALUE LINE

TIMELINESS 3 Lowered 10/28/16
SAFETY 2 Raised 7/29/16
TECHNICAL 4 Lowered 12/30/16
BETA .80 (1.00 = Market)

High:	47.9	57.3	66.4	63.0	57.2	57.2	56.0	72.9	93.0	116.3	116.2	114.7
Low:	35.5	42.9	50.9	34.3	36.4	43.9	44.8	54.7	70.6	86.7	89.4	86.7

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



Target Price Range
2019 | 2020 | 2021

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	130	(+25%)	9%
Low	95	(-10%)	2%

Insider Decisions

	M	A	M	J	J	A	S	O	N
to Buy	0	0	0	0	0	0	0	0	1
Options	1	0	4	1	1	1	0	0	0
to Sell	2	0	1	1	0	2	0	0	0

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	270	266	227
to Sell	254	249	253
Hld's(000)	203184	199665	200473

% TOT. RETURN 12/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	10.1	20.7
3 yr.	21.7	20.2
5 yr.	110.8	95.2

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
35.38	39.27	29.38	34.81	40.18	45.64	44.89	43.79	44.21	32.88	37.44	41.83	39.80	43.18	44.80	41.20	*39.85*	*40.70*	Revenues per sh	*48.25*
4.91	5.39	5.71	5.56	6.58	5.96	6.74	6.93	7.40	7.94	7.76	8.58	8.92	8.87	9.41	10.32	*9.25*	*11.00*	"Cash Flow" per sh	*14.25*
2.06	2.55	2.79	3.01	3.93	3.52	4.23	4.26	4.43	4.78	4.02	4.47	4.35	4.22	4.63	5.23	*3.85*	*5.20*	Earnings per sh A	*7.50*
1.00	1.00	1.00	1.00	1.00	1.16	1.20	1.24	1.37	1.56	1.56	1.92	2.40	2.52	2.64	2.80	3.02	*3.28*	Div'd Decl'd per sh B ■	*4.00*
3.76	5.22	5.92	4.63	4.62	5.46	7.28	7.70	8.47	7.76	8.58	11.85	12.20	10.52	12.68	12.71	*14.15*	*10.30*	Cap'l Spending per sh	*11.25*
12.35	13.17	13.79	17.17	20.78	23.95	28.66	31.87	32.75	36.54	37.54	41.00	42.42	45.03	45.98	47.56	*49.40*	*51.20*	Book Value per sh C	*56.25*
201.90	204.48	204.91	226.60	234.18	257.19	262.01	261.21	243.32	246.51	240.45	239.93	242.37	244.46	246.33	248.30	*251.00*	*253.00*	Common Shs Outst'g D	*242.00*
9.4	9.7	8.2	9.0	8.6	11.8	11.5	14.0	11.8	10.1	12.6	11.8	14.9	19.7	21.9	19.7	*26.8*		Avg Ann'l P/E Ratio	*15.0*
.61	.50	.45	.51	.45	.63	.62	.74	.71	.67	.80	.74	.95	1.11	1.15	1.00	*1.40*		Relative P/E Ratio	*.95*
5.2%	4.1%	4.4%	3.7%	2.9%	2.8%	2.5%	2.1%	2.6%	3.2%	3.1%	3.6%	3.7%	3.0%	2.6%	2.7%	2.9%		Avg Ann'l Div'd Yield	*3.5%*

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
11761	11438	10758	8106.0	9003.0	10036	9647.0	10557	11035	10231	*10000*	*10300*	Revenues ($mill)	*11700*
1118.0	1135.0	1123.0	1193.0	1008.0	1088.0	1079.0	1060.0	1162.0	1314.0	*1025*	*1425*	Net Profit ($mill)	*1930*
31.3%	33.6%	29.2%	30.5%	26.5%	25.3%	18.2%	26.5%	19.7%	19.2%	*29.5%*	*29.0%*	Income Tax Rate	*28.0%*
7.2%	11.5%	13.2%	10.6%	11.3%	15.2%	17.2%	11.2%	14.4%	15.3%	*21.0%*	*14.0%*	AFUDC % to Net Profit	*10.0%*
37.0%	34.8%	44.5%	44.8%	49.4%	50.4%	52.8%	50.5%	51.7%	52.6%	*53.0%*	*53.0%*	Long-Term Debt Ratio	*57.5%*
61.4%	63.7%	54.2%	54.1%	49.6%	49.2%	46.7%	49.4%	48.2%	47.3%	*47.0%*	*47.0%*	Common Equity Ratio	*42.5%*
12229	13071	14692	16646	18186	20015	22002	22281	23513	24963	*26275*	*27700*	Total Capital ($mill)	*31900*
13175	14884	16865	18281	19876	23572	25191	25460	25902	28039	*30250*	*31375*	Net Plant ($mill)	*34600*
10.3%	9.6%	8.5%	8.3%	6.8%	6.7%	6.1%	6.0%	6.1%	6.4%	*5.0%*	*6.5%*	Return on Total Cap'l	*7.5%*
14.5%	13.3%	13.8%	13.0%	10.9%	10.9%	10.4%	9.6%	10.2%	11.1%	*8.0%*	*10.0%*	Return on Shr. Equity	*13.5%*
14.8%	13.5%	14.0%	13.1%	11.1%	11.0%	10.4%	9.6%	10.3%	11.1%	*8.0%*	*10.0%*	Return on Com Equity E	*13.5%*
11.0%	9.7%	9.7%	9.3%	7.0%	6.5%	5.1%	4.1%	5.0%	5.8%	*2.0%*	*4.0%*	Retained to Com Eq	*6.0%*
26%	29%	31%	29%	37%	41%	52%	58%	52%	48%	*77%*	*62%*	All Div'ds to Net Prof	*54%*

CAPITAL STRUCTURE as of 9/30/16
Total Debt $17295 mill. **Due in 5 Yrs** $7861 mill.
LT Debt $13522 mill. **LT Interest** $566 mill.
Incl. $245 mill. capitalized leases.
(LT interest earned: 3.4x)

Leases, Uncapitalized Annual rentals $71 mill.
Pension Assets-12/15 $2484 mill.
Oblig. $3649 mill.
Pfd Stock $20 mill. **Pfd Div'd** $1.2 mill.
811,073 shs. 6% cum., $25 par.
Common Stock 250,060,973 shs.
as of 10/27/16
MARKET CAP: $26 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	-1.3	+1.8	-1.0
Avg. Indust. Use (MWH)	4279	4543	4683
Avg. Indust. Revs. per KWH (¢)	13.10	16.55	17.58
Capacity at Peak (Mw)	NMF	NMF	NMF
Peak Load, Summer (Mw)	NMF	NMF	NMF
Annual Load Factor (%)	NMF	NMF	NMF
% Change Customers (yr-end)	+.5	+.6	+.7
Fixed Charge Cov. (%)	307	288	295

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	.5%	2.5%	*2.0%*
"Cash Flow"	4.5%	4.5%	*7.0%*
Earnings	3.0%	1.5%	*8.0%*
Dividends	9.5%	12.0%	*7.0%*
Book Value	8.5%	5.5%	*3.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	2650	2651	2551	2705	10557
2014	2795	2678	2815	2747	11035
2015	2682	2367	2481	2701	10231
2016	2622	2156	2535	*2687*	*10000*
2017	*2750*	*2250*	*2550*	*2750*	*10300*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.54	1.46	1.09	1.13	4.22
2014	.99	1.08	1.39	1.18	4.63
2015	1.74	1.03	.99	1.47	5.23
2016	1.47	.06	1.02	*1.30*	*3.85*
2017	*1.75*	*1.05*	*1.05*	*1.35*	*5.20*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.60	.63	.63	.63	2.49
2014	.63	.66	.66	.66	2.61
2015	.66	.70	.70	.70	2.76
2016	.70	.755	.755	.755	2.97
2017					

BUSINESS: Sempra Energy is a holding co. for San Diego Gas & Electric Company, which sells electricity & gas mainly in San Diego County, & Southern California Gas Company, which distributes gas to most of Southern California. Customers: 1.4 mill. electric, 6.6 mill. gas. Elec. rev. breakdown: residential, 41%; commercial, 42%; industrial, 10%; other, 7%. Purchases most of its power; the rest is gas. Has subs. in gas pipeline & storage, power generation, & liquefied natural gas. Sold commodities business in '10. Power costs: 37% of revs. '15 reported deprec. rates: 2.7%-5.7%. Has 17,400 employees. Chairman and CEO: Debra L. Reed. President: Mark A. Snell. Inc.: CA. Address: 488 8th Avenue, San Diego, CA 92101. Tel.: 619-696-2000. Internet: www.sempra.com.

Sempra Energy's Cameron liquefied natural gas project is experiencing delays. The contractor now estimates that the three trains will be delayed until mid-2018, late 2018, and mid-2019. Previously, all three were expected to begin operating in 2018 and be in service for all of 2019. This will not affect the company's earnings this year, but will reduce its income in 2018 and 2019. (Quarterly profits when all three trains are in service are projected at $80 million.) Sempra might be eligible for damage payments due to the delay. Even so, this understandably concerns the market, and the stock has underperformed most utility issues since late October (when the announcement was made).

The year that just ended was an active one for dealmaking. Most notably, the company's Mexico subsidiary, IEnova, bought its partner's 50% stake in a midstream gas joint venture for $1.1 billion, and booked a $350 million (aftertax) nonrecurring gain in connection with the acquisition. IEnova also paid $852 million for a wind project. To help finance its investments, IEnova had a $1.6 billion equity offering. Sempra also raised $443 million through the sale of its 25% stake in the Rockies Express gas pipeline, but recorded a $27 million (aftertax) nonrecurring loss on the deal. Also in connection with this sale, the company recorded a $123 million charge for the permanent release of pipeline capacity, but we *included* this in our presentation due to its operational nature. That's why earnings in the second quarter of 2016 were depressed, and why the year-to-year profit comparison should be easy in 2017.

We expect a significant dividend hike at the board meeting in February. Sempra has set a goal of 8%-9% annual dividend growth through 2020, and we think the possible setback with Cameron will not change this target. We look for a raise of $0.065 a share (8.6%) in the quarterly payout.

The dividend yield of Sempra stock is below the industry average. This reflects the company's strong dividend growth potential. Like many utility equities, Sempra's recent quotation is within our 2019-2021 Target Price Range. Thus, total return potential is unspectacular.

Paul E. Debbas, CFA *January 27, 2017*

(A) Dil. EPS. Excl. nonrec. gains (losses): '05, 17¢; '06, (6¢); '09, (26¢); '10, ($1.05); '11, $1.15; '12, (98¢); '13, (30¢); '15, 14¢; '16, $1.23; gain (losses) from disc. ops.: '04, (10¢); '05, (4¢); '06, $1.21; '07, (10¢). '14 EPS don't sum due to rounding. Next egs. due late Feb. **(B)** Div'ds paid mid-Jan., Apr., July & Oct. ■ Div'd reinv. plan avail. **(C)** Incl. intang. In '15: $18.11/sh. **(D)** In mill. **(E)** Rate base: Net orig. cost. Rate allowed on com. eq.: SDG&E in '13: 10.3%; SoCalGas in '13: 10.1%; earn. on avg. com. eq., '15: 11.2%. Regul. Climate: Average.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	80
Earnings Predictability	80

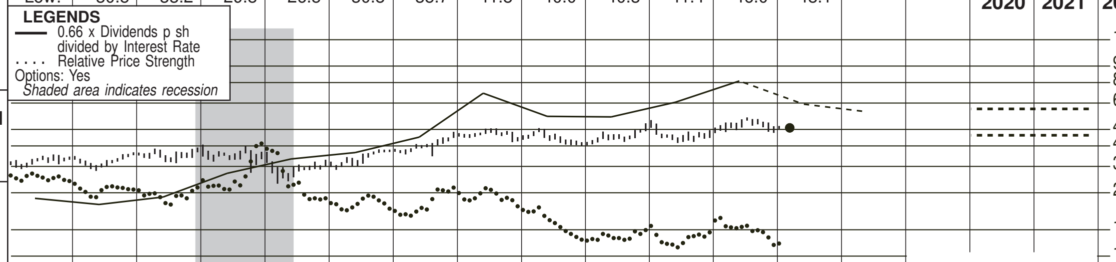
SOUTHERN COMPANY NYSE-SO

RECENT PRICE 48.76 | P/E RATIO 18.1 (Trailing: 16.7 Median: 16.0) | RELATIVE P/E RATIO 0.93 | DIV'D YLD 4.7% | VALUE LINE

TIMELINESS 2 Raised 3/18/16
SAFETY 2 Lowered 2/21/14
TECHNICAL 3 Raised 1/20/17
BETA .55 (1.00 = Market)

High:	37.4	39.3	40.6	37.6	38.6	46.7	48.6	48.7	51.3	53.2	54.6	49.8
Low:	30.5	33.2	29.8	26.5	30.8	35.7	41.8	40.0	40.3	41.4	46.0	48.1

Target Price Range
2020 | 2021 | 2022



% TOT. RETURN 1/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	5.7	31.2
3 yr.	36.1	25.8
5 yr.	36.2	84.9

2020-22 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	60	(+25%)	10%
Low	45	(-10%)	3%

Insider Decisions

	A	M	J	J	A	S	O	N	D
to Buy	0	0	0	0	0	0	0	0	0
Options	1	1	2	4	3	0	0	0	0
to Sell	1	1	2	4	3	0	0	0	0

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	587	564	524
to Sell	403	422	463
Hld's(000)	470025	478780	490983

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
14.54	14.73	15.31	16.05	18.28	19.24	20.12	22.04	19.21	20.70	20.41	19.06	19.26	20.34	19.18	**19.35**	**21.75**	**22.30**	Revenues per sh	**25.00**
3.55	3.46	3.53	3.65	4.03	4.01	4.22	4.43	4.43	4.51	4.91	5.18	5.27	5.28	5.47	**5.30**	**5.85**	**6.05**	"Cash Flow" per sh	**7.00**
1.61	1.85	1.97	2.06	2.13	2.10	2.28	2.25	2.32	2.36	2.55	2.67	2.70	2.77	2.84	**2.70**	**2.95**	**3.10**	Earnings per sh A	**3.75**
1.34	1.36	1.39	1.42	1.48	1.54	1.60	1.66	1.73	1.80	1.87	1.94	2.01	2.08	2.15	2.22	**2.30**	**2.38**	Div'd Decl'd per sh B ■ †	**2.62**
3.75	3.79	2.72	2.85	3.20	4.01	4.65	5.10	5.70	4.85	5.23	5.54	6.16	6.58	6.22	**10.30**	**8.85**	**8.10**	Cap'l Spending per sh	**7.25**
11.43	12.16	13.13	13.86	14.42	15.24	16.23	17.08	18.15	19.21	20.32	21.09	21.43	21.98	22.59	**28.60**	**29.55**	**30.50**	Book Value per sh C	**33.50**
698.34	716.40	734.83	741.50	741.45	746.27	763.10	777.19	819.65	843.34	865.13	867.77	887.09	907.78	911.72	**991.00**	**1003.0**	**1015.0**	Common Shs Outst'g D	**1021.0**
14.6	14.6	14.8	14.7	15.9	16.2	16.0	16.1	13.5	14.9	15.8	17.0	16.2	16.0	15.8	**18.6**	*Bold figures are*	*Value Line*	Avg Ann'l P/E Ratio	**14.5**
.75	.80	.84	.78	.85	.87	.85	.97	.90	.95	.99	1.08	.91	.84	.80	**.95**	*estimates*		Relative P/E Ratio	**.95**
5.7%	5.0%	4.7%	4.7%	4.4%	4.5%	4.4%	4.6%	5.5%	5.1%	4.6%	4.3%	4.6%	4.7%	4.8%	4.4%			Avg Ann'l Div'd Yield	**4.9%**

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		20-22
15353	17127	15743	17456	17657	16537	17087	18467	17489	**19200**	**21800**	**22650**	Revenues ($mill)	**25500**
1782.0	1807.0	1910.0	2040.0	2268.0	2415.0	2439.0	2567.0	2647.0	**2675**	**3050**	**3230**	Net Profit ($mill)	**3895**
31.9%	33.6%	31.9%	33.5%	35.0%	35.6%	34.8%	33.8%	33.4%	**33.5%**	**33.5%**	**33.5%**	Income Tax Rate	**33.5%**
9.5%	12.3%	14.9%	13.7%	10.2%	9.4%	11.6%	13.9%	13.2%	**13.0%**	**12.0%**	**11.0%**	AFUDC % to Net Profit	**9.0%**
51.2%	53.9%	53.2%	51.2%	50.0%	49.9%	51.5%	49.5%	52.8%	**56.0%**	**56.5%**	**57.0%**	Long-Term Debt Ratio	**57.0%**
44.9%	42.6%	43.6%	45.7%	47.1%	47.3%	45.8%	47.3%	44.0%	**42.0%**	**41.5%**	**41.0%**	Common Equity Ratio	**41.0%**
27608	31174	34091	35438	37307	38653	41483	42142	46788	**67850**	**71400**	**75225**	Total Capital ($mill)	**83100**
33327	35878	39230	42002	45010	48390	51208	54868	61114	**78675**	**84650**	**89850**	Net Plant ($mill)	**102700**
7.9%	7.1%	6.9%	7.0%	7.2%	7.3%	6.8%	7.1%	6.6%	**5.0%**	**5.0%**	**5.5%**	Return on Total Cap'l	**5.5%**
13.2%	12.6%	12.0%	11.8%	12.2%	12.5%	12.1%	12.1%	12.0%	**9.0%**	**10.0%**	**10.0%**	Return on Shr. Equity	**11.0%**
14.0%	13.1%	12.4%	12.2%	12.5%	12.8%	12.5%	12.5%	12.6%	**9.0%**	**10.0%**	**10.0%**	Return on Com Equity E	**11.0%**
4.3%	3.5%	3.2%	3.0%	3.4%	3.6%	3.2%	3.2%	3.1%	**1.5%**	**2.0%**	**2.5%**	Retained to Com Eq	**3.5%**
70%	74%	75%	77%	73%	73%	75%	75%	76%	**81%**	**77%**	**76%**	All Div'ds to Net Prof	**70%**

CAPITAL STRUCTURE as of 9/30/16
Total Debt $45474 mill. **Due in 5 Yrs** NA
LT Debt $41550 mill. **LT Interest** $1454 mill.
(LT interest earned: 5.0x)
Leases, Uncapitalized Annual rentals $121 mill.
Pension Assets-12/15 $9234 mill. **Ob** $10542 mill.
Pfd Stock $1508 mill. **Pfd Div'd** $44 mill.
Incl. 1 mill. shs. 4.2%-5.44% cum. pfd. ($100 par); 1.52 mill. shs. 5.2%-5.83% cum. pfd. ($1 par); 2 mill. shs. 6.0% noncum. pfd. ($25 par); 4 mill. shs. 5.6%-6.5% noncum. pfd. ($100 par); 8 mill. shs. 5.63%-6.5% noncum. pfd. ($1 par).
Common Stock 979,999,480 shs.
MARKET CAP: $48 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+.3	+3.3	-.7
Avg. Indust. Use (MWH)	3277	3384	3371
Avg. Indust. Revs. per KWH (¢)	6.08	6.37	5.88
Capacity at Yearend (Mw)	45502	46549	44223
Peak Load, Summer (Mw) F	33557	37234	36794
Annual Load Factor (%)	63.2	59.6	59.9
% Change Customers (yr-end)	+.7	+.8	+.9
Fixed Charge Cov. (%)	423	417	433

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '20-'22
Revenues	1.5%	-1.0%	3.5%
"Cash Flow"	3.5%	3.5%	4.0%
Earnings	3.0%	3.5%	4.5%
Dividends	4.0%	3.5%	3.5%
Book Value	5.0%	4.0%	6.0%

Cal-endar	QUARTERLY REVENUES (mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	4644	4467	5339	4017	18467
2015	4183	4337	5401	3568	17489
2016	3965	4453	6264	**4518**	**19200**
2017	**5800**	**5200**	**6200**	**4600**	**21800**
2018	**6050**	**5400**	**6450**	**4750**	**22650**

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	.66	.68	1.08	.36	2.77
2015	.56	.71	1.16	.42	2.84
2016	.57	.71	1.22	**.20**	**2.70**
2017	**.65**	**.70**	**1.15**	**.45**	**2.95**
2018	**.70**	**.75**	**1.20**	**.45**	**3.10**

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.49	.5075	.5075	.5075	2.01
2014	.5075	.525	.525	.525	2.08
2015	.525	.5425	.5425	.5425	2.15
2016	.5425	.56	.56	.56	2.22
2017					

BUSINESS: The Southern Company, through its subs., supplies electricity to 4.6 million customers in GA, AL, FL, and MS. Also has a competitive generation business. Acq'd AGL Resources (renamed Southern Company Gas, 4.5 mill. customers in GA, FL, NJ, IL, VA, & TN) 7/16. Electric rev. breakdown: residential, 38%; commercial, 32%; industrial, 19%; other, 11%. Retail revs. by state: GA, 50%; AL, 34%; FL, 9%; MS, 7%. Generating sources: gas & oil, 44%; coal, 32%; nuclear, 15%; hydro, 3%; purchased, 6%. Fuel costs: 31% of revs. '15 reported depr. rate (utility): 3.0%. Has 32,000 employees. Chairman, President and CEO: Thomas A. Fanning. Inc.: DE. Address: 30 Ivan Allen Jr. Blvd., N.W., Atlanta, GA 30308. Tel.: 404-506-0747. Internet: www.southerncompany.com.

The Georgia commission has approved a settlement regarding the construction of two units at Southern Company's Georgia Power subsidiary. The project, at the site of the utility's Vogtle station, has had delays and cost overruns. All of the project's $3.3 billion of construction costs through 2015 were deemed prudent. The in-service capital cost forecast was raised from $4.418 billion to $5.68 billion. (This figure excludes $2.422 billion of financing costs, which are recovered concurrently.) The utility will have the burden of proof for prudence for any construction costs exceeding $5.68 billion. Finally, the return on equity used for calculating nuclear cost recovery was reduced from 10.95% to 10%. The new units are scheduled to come on line in June of 2019 and June of 2020.

Mississippi Power expects its coal gasification plant to be in service by the end of this month. The project has had extensive delays and cost overruns far above a regulatory cap of $2.88 billion. Accordingly, the utility has taken nonrecurring charges since 2013, and we expect additional charges for the fourth quarter of 2016 and the first period of 2017.

Gulf Power has a rate case pending. The utility asked the Florida regulators for a $106.8 million increase, based on an 11% ROE. Gulf Power is asking for new tariffs to take effect in July of 2017.

Earnings should be much improved in 2017 after a depressed tally in 2016, and we forecast further growth in 2018. Last year, the company incurred expenses associated with the acquisition and integration of AGL Resources (renamed Southern Company Gas). Also, the mid-2016 timing of the purchase meant that Southern Company did not own the business in the seasonally strong first quarter. Our 2017 earnings estimate is within management's targeted range of $2.90-$3.02 a share. Rate relief and growth in Southern Power's contracted nonregulated generating assets should be positive factors each year, as well.

This timely stock has a dividend yield that is more than a percentage point above the utility average. Total return potential to 2020-2022 is a cut above the industry average.

Paul E. Debbas, CFA *February 17, 2017*

(A) Dil. EPS. Excl. nonrec. gain (losses): '03, 6¢; '09, (25¢); '13, (83¢); '14, (59¢); '15, (25¢); '16, (13¢). '14 & '15 EPS don't add due to rounding. Next earnings report due late Feb. (B) Div'ds paid in early Mar., June, Sept., and Dec. ■ Div'd reinvest. plan avail. † Shareholder invest. plan avail. (C) Incl. def'd chgs. In '15: $8.24/sh. (D) In mill. (E) Rate base: AL, MS, fair value; FL, GA, orig. cost. All'd return on com. eq. (blended): 12.5%; earn. on avg. com. eq., '15: 12.7%. Regul. Climate: GA, AL Above Avg.; MS, FL Avg. (F) Winter peak in '14 & '15.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	35
Earnings Predictability	100

VECTREN CORP. NYSE-VVC

RECENT PRICE **56.30** | P/E RATIO **21.2** (Trailing: 22.1 Median: 16.0) | RELATIVE P/E RATIO **1.09** | DIV'D YLD **3.1%** | VALUE LINE

High:	29.3	30.5	32.2	26.9	27.8	30.7	30.8	37.9	48.3	49.5	53.3	57.1
Low:	25.2	24.8	19.5	18.1	21.7	23.7	27.5	29.5	34.6	37.3	39.4	51.5

TIMELINESS 3 Lowered 7/22/16
SAFETY 2 Lowered 1/5/01
TECHNICAL 3 Raised 2/24/17
BETA .75 (1.00 = Market)

2020-22 PROJECTIONS

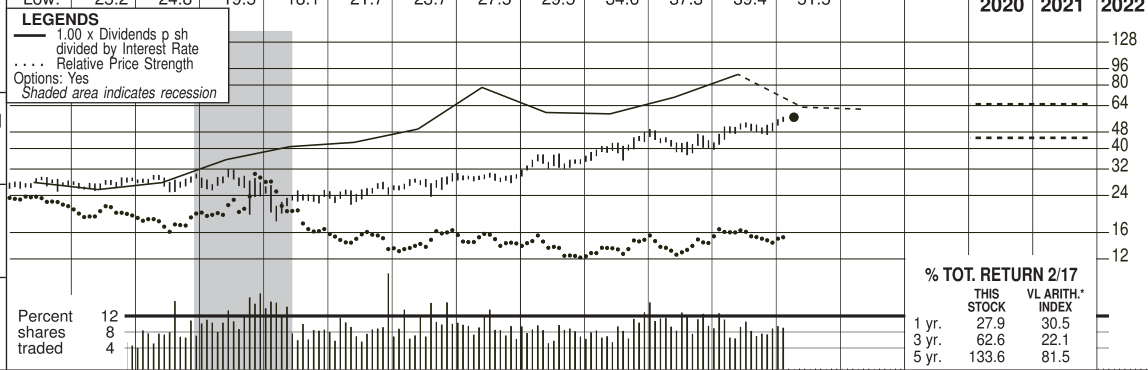
	Price	Gain	Ann'l Total Return
High	65	(+15%)	7%
Low	45	(-20%)	-1%

Insider Decisions

	M	J	J	A	S	O	N	D	J
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	0	0	0	10
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	2Q2016	3Q2016	4Q2016
to Buy	151	129	138
to Sell	112	136	132
Hld's(000)	52315	51679	52408



% TOT. RETURN 2/17

	THIS STOCK	VL ARITH.* INDEX
1 yr.	27.9	30.5
3 yr.	62.6	22.1
5 yr.	133.6	81.5

Vectren was formed on March 31, 2000 through the merger of Indiana Energy and SIGCORP. The merger was consummated with a tax-free exchange of shares and has been accounted for as a pooling of interests. Indiana Energy common stockholders received one Vectren common share for each share held. SIGCORP stockholders exchanged each common share for 1.333 common shares of Vectren.

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
29.88	30.67	25.76	26.06	28.39	27.16	30.23	31.62	29.40	29.53	*30.85*	*31.90*	Revenues per sh	*40.70*
4.29	3.97	4.40	4.44	4.71	5.03	5.03	5.33	5.48	5.69	*5.95*	*6.25*	"Cash Flow" per sh	*7.80*
1.83	1.63	1.79	1.65	1.73	1.94	1.66	2.02	2.39	2.55	*2.70*	*2.85*	Earnings per sh A	*3.45*
1.27	1.31	1.35	1.37	1.39	1.41	1.43	1.46	1.54	1.62	*1.70*	*1.78*	Div'd Decl'd per sh B■†	*2.00*
4.38	4.83	5.33	3.39	3.92	4.45	4.77	5.43	5.76	6.54	*6.95*	*7.40*	Cap'l Spending per sh	*8.70*
16.16	16.68	17.23	17.61	17.89	18.57	18.86	19.45	20.34	21.33	*22.50*	*23.80*	Book Value per sh C	*27.05*
76.36	81.03	81.10	81.70	81.90	82.20	82.40	82.60	82.80	82.90	*83.50*	*84.00*	Common Shs Outst'g D	*86.00*
15.3	16.8	12.9	15.0	15.8	15.0	20.7	20.0	17.9	19.2	*Bold figures are*		Avg Ann'l P/E Ratio	*16.0*
.81	1.01	.86	.95	.99	.95	1.16	1.05	.90	1.01	*Value Line*		Relative P/E Ratio	*1.00*
4.5%	4.8%	5.9%	5.5%	5.1%	4.8%	4.2%	3.6%	3.6%	3.3%	*estimates*		Avg Ann'l Div'd Yield	*3.6%*
2281.9	2484.7	2088.9	2129.5	2325.2	2232.8	2491.2	2611.7	2434.7	2448.3	*2575*	*2680*	Revenues ($mill)	*3500*
143.1	129.0	145.0	133.7	141.6	159.0	136.6	166.9	197.3	211.6	*225*	*240*	Net Profit ($mill)	*295*
34.7%	37.1%	26.5%	35.8%	37.9%	34.2%	32.9%	32.7%	33.6%	34.8%	*35.0%*	*35.0%*	Income Tax Rate	*35.0%*
2.8%	2.9%	4.1%	--	--	--	--	--	4.1%	4.0%	*4.0%*	*4.0%*	AFUDC % to Net Profit	*4.0%*
50.2%	48.0%	52.4%	49.9%	51.6%	50.4%	53.3%	46.7%	50.6%	47.3%	*48.0%*	*48.0%*	Long-Term Debt Ratio	*48.0%*
49.8%	52.0%	47.6%	50.1%	48.4%	49.6%	46.7%	53.3%	49.4%	52.7%	*52.0%*	*52.0%*	Common Equity Ratio	*52.0%*
2479.1	2599.5	2937.7	2874.1	3025.1	3079.5	3331.4	3013.9	3406.6	3358.0	*3630*	*3850*	Total Capital ($mill)	*4475*
2539.7	2720.3	2878.8	2955.4	3032.6	3119.6	3224.3	3439.0	4089.5	4406.8	*4700*	*5000*	Net Plant ($mill)	*6000*
7.2%	6.5%	6.3%	6.1%	6.2%	6.4%	5.4%	6.8%	7.0%	7.4%	*7.5%*	*7.5%*	Return on Total Cap'l	*7.5%*
11.6%	9.5%	10.4%	9.3%	9.7%	10.4%	8.8%	10.4%	11.7%	12.0%	*12.0%*	*12.0%*	Return on Shr. Equity	*12.5%*
11.6%	9.5%	10.4%	9.3%	9.7%	10.4%	8.8%	10.4%	11.7%	12.0%	*12.0%*	*12.0%*	Return on Com Equity E	*12.5%*
3.8%	2.0%	2.6%	1.6%	1.9%	2.9%	1.2%	2.9%	4.2%	4.4%	*4.5%*	*4.5%*	Retained to Com Eq	*5.5%*
67%	80%	75%	83%	80%	73%	86%	72%	65%	63%	*63%*	*62%*	All Div'ds to Net Prof	*58%*

CAPITAL STRUCTURE as of 12/31/16
Total Debt $1908.4 mill. **Due in 5 Yrs** $633.5 mill.
LT Debt $1589.9 mill. **LT Interest** $85.0 mill.
(LT interest earned: 4.8x)

Pension Assets-12/16 $304.5 mill.
Oblig. $350.4 mill.
Pfd Stock None

Common Stock 82,922,412 shs.
as of 1/31/17

MARKET CAP: $4.7 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2014	2015	2016
% Change Retail Sales (KWH)	+2.0	-2.4	+.3
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	1407	1357	1360
Peak Load, Summer (Mw)	1095	1088	1096
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.6	+.7	+.8
Fixed Charge Cov. (%)	363	428	446

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '14-'16 to '20-'22
Revenues	2.0%	2.5%	*5.0%*
"Cash Flow"	4.5%	4.0%	*6.0%*
Earnings	4.0%	6.0%	*7.0%*
Dividends	2.5%	2.5%	*4.5%*
Book Value	3.0%	3.0%	*5.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) F Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2014	796.8	542.5	595.6	676.8	2611.7
2015	706.2	551.0	573.5	604.0	2434.7
2016	584.8	533.7	631.0	699.0	2448.3
2017	*660*	*565*	*650*	*700*	*2575*
2018	*680*	*600*	*675*	*725*	*2680*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2014	.62	.14	.57	.69	2.02
2015	.69	.43	.48	.79	2.39
2016	.58	.39	.74	.84	2.55
2017	*.64*	*.43*	*.75*	*.88*	*2.70*
2018	*.70*	*.46*	*.78*	*.91*	*2.85*

Cal-endar	QUARTERLY DIVIDENDS PAID B■† Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.355	.355	.355	.360	1.43
2014	.360	.360	.360	.380	1.46
2015	.380	.380	.380	.400	1.54
2016	.400	.400	.400	.420	1.62
2017	.420				

BUSINESS: Vectren is a holding company formed through the merger of Indiana Energy and SIGCORP. Supplies electricity and gas to an area nearly two-thirds of the state of Indiana. Owns gas distribution assets in Ohio. Has a customer base exceeding 1.1 million. 2016 Electricity revenues: residential, 37%; commercial, 27%; industrial, 34%; other, 2%. 2016 Gas revenues: residential, 67%; commercial, 23%; other, 10%. Nonutility operations include Infrastructure Services and Energy Services. Est'd plant age: electric, 10 years. '16 depreciation rate: 4.0%. Has about 5,800 employees. Chairman, President, & CEO: Carl Chapman. Incorporated: Indiana. Address: One Vectren Square, Evansville, Indiana 47708. Telephone: 812-491-4000. Internet: www.vectren.com.

Shares of Vectren have moved higher in price in recent months, and are presently trading close to an all-time high. The company finished 2016 on a good note. Revenues advanced nearly 16% in the December quarter, on a year-to-year basis. Expenses increased at roughly the same pace, and share earnings were moderately higher. Favorable performance at the Utility Group was largely driven by continued investment in gas infrastructure programs in both Indiana and Ohio. On the nonutility side, the Infrastructure Services distribution business was able to capitalize on greater spending on gas infrastructure systems. Performance at the Infrastructure Services transmission operation has been impacted by increasing competition, which has reduced the number of projects awarded and pressured margins. The recent addition of several projects has provided some support here, and should continue to do so.

Overall performance should remain solid going forward. Continued investment by the company in gas infrastructure and accelerated spending in its electric system augur well for future performance here. Vectren's utility businesses remain well positioned in their service territories. We look for solid results at the company's nonutility operations, as well. A greater national emphasis on infrastructure spending in the coming years may well benefit performance at the Infrastructure Services line. We envision healthy growth at the Energy Services unit, too.

These shares do not stand out at this time. The stock is ranked to mirror the broader market for the year ahead. Long-term total return potential is nothing to write home about, either. This issue presently trades at a price-to-earnings multiple that is well above its historical average, following a run-up in the share price. We do expect solid growth at the company out to early next decade, but this appears to be discounted by the recent quotation. A selloff some time down the road may offer conservative, income-seeking accounts a more attractive entry point. Vectren earns good marks for Safety, Financial Strength, Price Stability, and Earnings Predictability. Volatility is below average here, as well (Beta: .75).

Michael Napoli, CFA *March 17, 2017*

(A) Diluted EPS. Excl. nonrecur. gain (loss): '09, 15¢. Next egs report due early May. **(B)** Div'ds historically paid in early March, June, September, and December. ■Div'd reinvest. plan avail. † Shareholder invest. plan avail. **(C)** Incl. intang. In '16, $7.27/sh. **(D)** In millions. **(E)** Electric rate base determination: fair value. Rates allowed on elect. common equity range from 10.15% to 10.4%. Regulatory Climate: Above Average. **(F)** Totals may not sum due to rounding.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	70
Earnings Predictability	75

WEC ENERGY GROUP NYSE-WEC

RECENT PRICE 59.29 | P/E RATIO 19.4 (Trailing: 20.1 Median: 16.0) | RELATIVE P/E RATIO 0.99 | DIV'D YLD 3.6% | VALUE LINE

TIMELINESS 3 Lowered 9/16/16
SAFETY 1 Raised 3/23/12
TECHNICAL 3 Raised 1/20/17
BETA .60 (1.00 = Market)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
High:	24.3	25.2	24.8	25.3	30.5	35.4	41.5	45.0	55.4	58.0	66.1	60.7
Low:	19.1	20.5	17.4	18.2	23.4	27.0	33.6	37.0	40.2	44.9	50.4	56.1

Target Price Range
2020 | 2021 | 2022

2020-22 PROJECTIONS

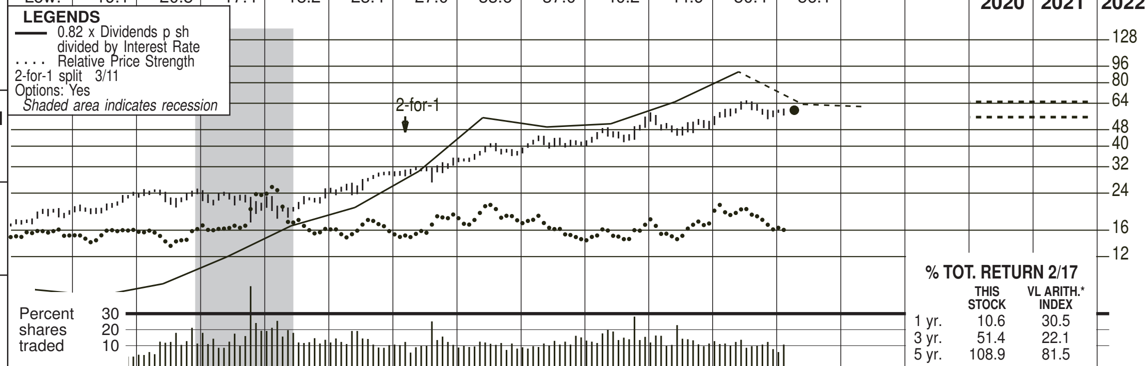
	Price	Gain	Ann'l Total Return
High	65	(+10%)	6%
Low	55	(-5%)	2%

Insider Decisions

	M	J	J	A	S	O	N	D	J
to Buy	0	0	0	0	0	0	0	0	0
Options	5	2	0	5	0	0	0	0	24
to Sell	4	2	0	6	0	0	0	0	1

Institutional Decisions

	2Q2016	3Q2016	4Q2016
to Buy	334	278	325
to Sell	235	299	272
Hld's(000)	223080	214898	223988



2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC	20-22
17.02	16.10	17.12	14.66	16.31	17.08	18.12	18.95	17.65	17.98	19.46	18.54	20.00	22.16	18.77	23.68	*24.25*	*25.20*	Revenues per sh	*28.25*
2.72	2.84	2.86	2.58	2.89	2.90	2.98	2.95	3.11	3.30	3.68	4.01	4.33	4.47	3.87	5.39	*5.60*	*5.85*	"Cash Flow" per sh	*6.75*
.92	1.16	1.13	.93	1.28	1.32	1.42	1.52	1.60	1.92	2.18	2.35	2.51	2.59	2.34	2.96	*3.10*	*3.25*	Earnings per sh A	*3.75*
.40	.40	.40	.42	.44	.46	.50	.54	.68	.80	1.04	1.20	1.45	1.56	1.74	1.98	*2.08*	*2.18*	Div'd Decl'd per sh B ■	*2.50*
3.01	2.54	2.95	2.85	3.40	4.17	5.28	4.86	3.50	3.41	3.60	3.09	3.04	3.26	4.01	4.51	*7.00*	*6.30*	Cap'l Spending per sh	*5.75*
8.91	9.22	9.96	10.65	11.46	12.35	13.25	14.27	15.26	16.26	17.20	18.05	18.73	19.60	27.42	28.29	*29.30*	*30.30*	Book Value per sh C	*33.75*
230.84	232.06	236.85	233.97	233.96	233.94	233.89	233.84	233.82	233.77	230.49	229.04	225.96	225.52	315.68	315.62	*315.65*	*315.65*	Common Shs Outst'g D	*315.65*
12.1	10.5	12.4	17.5	14.5	16.0	16.5	14.8	13.3	14.0	14.2	15.8	16.5	17.7	21.3	19.9	*Bold figures are*		Avg Ann'l P/E Ratio	*16.0*
.62	.57	.71	.92	.77	.86	.88	.89	.89	.89	.89	1.01	.93	.93	1.07	1.05	*Value Line*		Relative P/E Ratio	*1.00*
3.6%	3.3%	2.8%	2.6%	2.4%	2.2%	2.1%	2.4%	3.2%	3.0%	3.3%	3.2%	3.5%	3.4%	3.5%	3.4%	*estimates*		Avg Ann'l Div'd Yield	*4.2%*

CAPITAL STRUCTURE as of 12/31/16
Total Debt $10176 mill. **Due in 5 Yrs** $3250.8 mill.
LT Debt $9158.2 mill. **LT Interest** $462.5 mill.
Incl. $29.6 mill. capitalized leases.
(LT interest earned: 4.7x)
Leases, Uncapitalized Annual rentals $9.9 mill.
Pension Assets-12/16 $2709.2 mill.
Oblig $3058.8 mill.
Pfd Stock $30.4 mill. **Pfd Div'd** $1.2 mill.
260,000 shs. 3.60%, $100 par, callable. $101;
44,498 shs. 6%, $100 par.
Common Stock 315,587,523 shs.
as of 1/31/17
MARKET CAP: $19 billion (Large Cap)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		20-22
4237.8	4431.0	4127.9	4202.5	4486.4	4246.4	4519.0	4997.1	5926.1	7472.3	*7650*	*7950*	Revenues ($mill)	*8900*
337.7	359.8	378.4	455.6	514.0	547.5	578.6	589.5	640.3	940.2	*980*	*1025*	Net Profit ($mill)	*1180*
39.1%	37.6%	36.5%	35.4%	33.9%	35.9%	36.9%	38.0%	40.4%	37.6%	*37.5%*	*37.5%*	Income Tax Rate	*38.0%*
23.8%	27.2%	25.0%	18.6%	16.8%	9.4%	4.5%	1.3%	4.5%	3.8%	*4.0%*	*3.0%*	AFUDC % to Net Profit	*3.0%*
50.3%	54.8%	51.9%	50.6%	53.6%	51.7%	50.6%	48.5%	51.2%	50.5%	*49.5%*	*50.5%*	Long-Term Debt Ratio	*48.5%*
49.2%	44.8%	47.7%	49.0%	46.0%	48.0%	49.1%	51.2%	48.6%	49.3%	*50.0%*	*49.5%*	Common Equity Ratio	*51.0%*
6302.1	7442.0	7473.1	7764.5	8608.0	8619.3	8626.6	8636.5	17809	18118	*18425*	*19400*	Total Capital ($mill)	*20775*
7681.2	8517.0	9070.5	9601.5	10160	10572	10907	11258	19190	19916	*21350*	*22500*	Net Plant ($mill)	*25550*
7.0%	6.3%	6.4%	7.5%	7.5%	7.9%	8.1%	8.1%	4.5%	6.3%	*6.5%*	*6.5%*	Return on Total Cap'l	*7.0%*
10.8%	10.7%	10.5%	11.9%	12.9%	13.1%	13.6%	13.2%	7.4%	10.5%	*10.5%*	*10.5%*	Return on Shr. Equity	*11.0%*
10.9%	10.7%	10.6%	12.0%	12.9%	13.2%	13.6%	13.3%	7.4%	10.5%	*10.5%*	*10.5%*	Return on Com Equity E	*11.0%*
7.1%	7.0%	6.2%	7.0%	6.8%	6.5%	5.9%	5.3%	2.1%	3.5%	*3.5%*	*3.5%*	Retained to Com Eq	*3.5%*
35%	35%	42%	41%	47%	51%	57%	60%	71%	67%	*67%*	*67%*	All Div'ds to Net Prof	*67%*

ELECTRIC OPERATING STATISTICS

	2014	2015	2016
% Change Retail Sales (KWH)	-5.9	+29.1	+18.5
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Lg. C&I Revs. per KWH (¢)	8.62	7.71	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.5	+40.2	NA
Fixed Charge Cov. (%)	454	364	404

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '14-'16 to '20-'22
Revenues	3.0%	3.0%	*4.5%*
"Cash Flow"	5.0%	6.5%	*6.5%*
Earnings	8.5%	6.5%	*6.0%*
Dividends	15.0%	16.0%	*6.0%*
Book Value	8.0%	9.0%	*5.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	1695	1044	1033	1225	4997.1
2015	1388	991	1699	1848	5926.1
2016	2195	1602	1712	1963	7472.3
2017	*2300*	*1650*	*1700*	*2000*	*7650*
2018	*2400*	*1700*	*1750*	*2100*	*7950*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	.91	.58	.56	.53	2.59
2015	.86	.35	.58	.57	2.34
2016	1.09	.57	.68	.61	2.96
2017	*1.05*	*.65*	*.75*	*.65*	*3.10*
2018	*1.10*	*.67*	*.80*	*.68*	*3.25*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.34	.34	.382	.383	1.45
2014	.39	.39	.39	.39	1.56
2015	.422	.422	.44	.457	1.74
2016	.495	.495	.495	.495	1.98
2017	.52				

BUSINESS: WEC Energy Group, Inc. (formerly Wisconsin Energy) is a holding company for utilities that provide electric, gas & steam service in WI & gas service in IL, MN, & MI. Customers: 1.6 mill. elec., 2.8 mill. gas. Acq'd Integrys Energy 6/15. Sold Point Beach nuclear plant in '07. Elec. rev. breakdown: residential, 35%; small commercial & industrial, 31%; large commercial & industrial, 21%; other, 13%. Generating sources: coal, 52%; gas, 16%; renewables, 3%; purchased, 29%. Fuel costs: 35% of revs. '16 reported deprec. rates (utility): 2.3%-3.3%. Has 8,200 employees. Chairman: Gale E. Klappa. President & CEO: Allen L. Leverett. Inc.: Wisconsin. Address: 231 W. Michigan St., P.O. Box 1331, Milwaukee, WI 53201. Tel.: 414-221-2345. Internet: www.wecenergygroup.com.

WEC Energy Group's board of directors has raised the dividend. As is the practice in recent years, in early December WEC announced its expectation of a boost in the disbursement, and the board followed through at its meeting in January. The increase was $0.10 a share (5.1%) annually. The company's goals for its dividend are an annual growth rate of 5%-7% (matching its target for earnings growth) and a payout ratio of 65%-70%.

We estimate that WEC's earnings will advance 5% in 2017 and 2018. The company's Peoples Gas subsidiary in Chicago benefits from its accelerated main replacement program, in which the utility receives a current return (via a monthly charge on customers' bills) for the $280 million-$300 million it spends yearly on this program. Our 2017 share-net estimate is within management's targeted range of $3.06-$3.12 a share.

WEC's electric utility in Michigan has asked the state commission for a certificate of need to build a gas-fired plant. The 180-megawatt facility would cost an estimated $275 million and would be completed in 2019. Half of the plant's costs would be recovered in rates, the other half from a large industrial customer through a 20-year contract. After the project is completed, the utility would retire an aging coal-fired plant. A ruling from the Michigan regulators is expected by October.

The company has announced a gas storage acquisition. WEC has agreed to pay $230 million in cash for a gas storage facility in Michigan. The utility is asking the state commission for a declaratory ruling approving the deal. This would provide a return on investment similar to that of a utility.

Finances are strong. WEC's fixed-charge coverage is well above the industry average. The common-equity ratio is healthy. The earned return on equity isn't as high as it was before the Integrys takeover in 2015, but is still adequate.

WEC stock offers a dividend yield that is average for a utility. Conservative accounts might find this suitable, given the equity's top-notch Safety rank. Like most issues in this industry, however, 3- to 5-year total return potential is just modest.

Paul E. Debbas, CFA *March 17, 2017*

(A) Diluted EPS. Excl. gains on disc. ops.: '04, 77¢; '05, 2¢; '06, 2¢; '09, 2¢; '10, 1¢; '11, 6¢. '14-'16 EPS don't sum due to rounding or chng. in shs. Next egs. report due early May. (B) Div'ds paid in early Mar., June, Sept. & Dec. ■ Div'd reinv. avail. (C) Incl. intang. In '16: $19.44/sh. (D) In mill., adj. for split. (E) Rate base: Net orig. cost. Rates all'd on com. eq. in WI in '15: 10.0%-10.3%; in IL in '15: 9.05%; in MN in '16: 9.11%; in MI in '16: 9.9%; earned on avg. com. eq., '16: 10.6%. Regul. Climate: WI, Above Avg.; IL, Below Avg.; MN & MI, Avg.

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

XCEL ENERGY NYSE-XEL

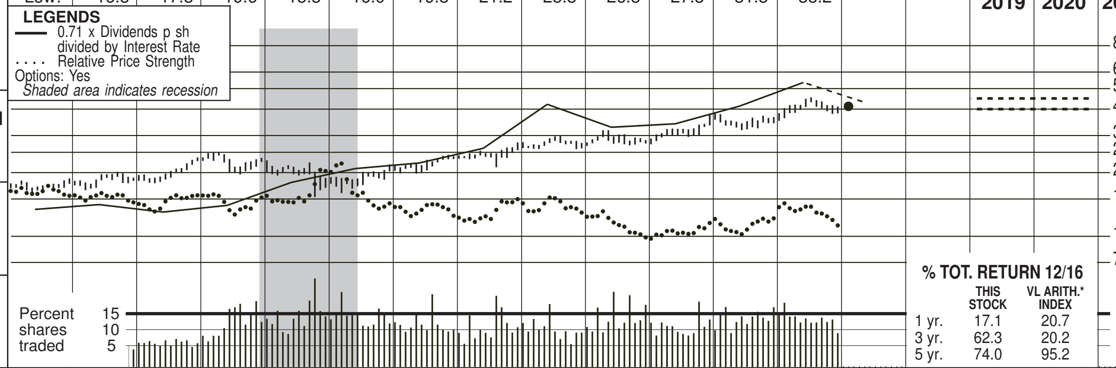
RECENT PRICE 41.20 | P/E RATIO 18.1 (Trailing: 19.0 Median: 15.0) | RELATIVE P/E RATIO 0.91 | DIV'D YLD 3.5% | VALUE LINE

TIMELINESS 3 Lowered 11/11/16
SAFETY 1 Raised 5/1/15
TECHNICAL 3 Raised 1/13/17
BETA .60 (1.00 = Market)

High:	20.2	23.6	25.0	22.9	21.9	24.4	27.8	29.9	31.8	37.6	38.3	45.4	
Low:	16.5	17.8	19.6	15.3	16.0	19.8	21.2	25.8	26.8	27.3	31.8	35.2	

Target Price Range 2019 | 2020 | 2021

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



2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(+10%)	*6%*
Low	40	(-5%)	*3%*

Insider Decisions

	M	A	M	J	J	A	S	O	N
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	0	0	0	1	0	0	1

Institutional Decisions

	1Q2016	2Q2016	3Q2016
to Buy	292	306	257
to Sell	231	218	254
Hld's(000)	370041	364911	355920

% TOT. RETURN 12/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	17.1	20.7
3 yr.	62.3	20.2
5 yr.	74.0	95.2

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
34.11	43.56	23.89	19.90	20.84	23.86	24.16	23.40	24.69	21.08	21.38	21.90	20.76	21.92	23.11	21.72	*21.45*	*21.65*	Revenues per sh	*23.25*
4.12	5.09	3.14	3.35	3.27	3.28	3.61	3.45	3.50	3.48	3.51	3.79	4.00	4.10	4.28	4.56	*5.05*	*5.50*	"Cash Flow" per sh	*6.25*
1.60	2.27	.42	1.23	1.27	1.20	1.35	1.35	1.46	1.49	1.56	1.72	1.85	1.91	2.03	2.10	*2.20*	*2.30*	Earnings per sh A	*2.75*
1.48	1.50	1.13	.75	.81	.85	.88	.91	.94	.97	1.00	1.03	1.07	1.11	1.20	1.28	1.36	*1.44*	Div'd Decl'd per sh B ■ †	*1.70*
3.63	7.40	6.04	2.49	3.19	3.25	4.00	4.89	4.66	3.91	4.60	4.53	5.27	6.82	6.33	7.26	*6.00*	*7.20*	Cap'l Spending per sh	*6.75*
16.37	17.95	11.70	12.95	12.99	13.37	14.28	14.70	15.35	15.92	16.76	17.44	18.19	19.21	20.20	20.89	*21.70*	*22.55*	Book Value per sh C	*25.25*
339.79	345.02	398.71	398.96	400.46	403.39	407.30	428.78	453.79	457.51	482.33	486.49	487.96	497.97	505.73	507.54	*507.95*	*507.95*	Common Shs Outst'g D	*507.95*
14.3	12.4	NMF	11.6	13.6	15.4	14.8	16.7	13.7	12.7	14.1	14.2	14.8	15.0	15.4	16.5	*18.6*		Avg Ann'l P/E Ratio	*15.5*
.93	.64	NMF	.66	.72	.82	.80	.89	.82	.85	.90	.89	.94	.84	.81	.84	*1.00*		Relative P/E Ratio	*.95*
6.4%	5.3%	6.6%	5.2%	4.7%	4.6%	4.4%	4.0%	4.7%	5.1%	4.5%	4.2%	3.9%	3.9%	3.8%	3.7%	3.3%		Avg Ann'l Div'd Yield	*4.0%*

CAPITAL STRUCTURE as of 9/30/16
Total Debt $14478 mill. **Due in 5 Yrs** $4930.0 mill.
LT Debt $13403 mill. **LT Interest** $612.9 mill.
Incl. $164.0 mill. capitalized leases.
(LT interest earned: 3.8x)

Leases, Uncapitalized Annual rentals $241.6 mill.
Pension Assets-12/15 $2883.8 mill. **Oblig.** $3567.9 mill.
Pfd Stock None

Common Stock 507,952,795 shs. **as of 10/24/16**
MARKET CAP: $21 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
9840.3	10034	11203	9644.3	10311	10655	10128	10915	11686	11024	*10900*	*11000*	Revenues ($mill)	*11750*
568.7	575.9	645.7	685.5	727.0	841.4	905.2	948.2	1021.3	1063.6	*1120*	*1170*	Net Profit ($mill)	*1350*
24.2%	33.8%	34.4%	35.1%	37.5%	35.8%	33.2%	33.8%	33.9%	35.8%	*35.0%*	*33.0%*	Income Tax Rate	*33.0%*
9.8%	12.5%	15.9%	16.8%	11.7%	9.4%	10.8%	13.4%	12.5%	7.7%	*6.0%*	*7.0%*	AFUDC % to Net Profit	*6.0%*
52.1%	49.7%	52.2%	51.6%	53.1%	51.1%	53.3%	53.3%	53.0%	54.1%	*57.0%*	*57.0%*	Long-Term Debt Ratio	*52.5%*
47.0%	49.4%	47.1%	47.7%	46.3%	48.9%	46.7%	46.7%	47.0%	45.9%	*43.0%*	*43.0%*	Common Equity Ratio	*47.5%*
12371	12748	14800	15277	17452	17331	19018	20477	21714	23092	*25575*	*26550*	Total Capital ($mill)	*30400*
15549	16676	17689	18508	20663	22353	23809	26122	28757	31206	*32825*	*34850*	Net Plant ($mill)	*40300*
6.2%	6.3%	6.0%	6.2%	5.7%	6.5%	6.1%	6.0%	6.0%	5.8%	*5.5%*	*5.5%*	Return on Total Cap'l	*5.5%*
9.6%	9.0%	9.1%	9.3%	8.9%	9.9%	10.2%	9.9%	10.0%	10.0%	*10.0%*	*10.0%*	Return on Shr. Equity	*10.5%*
9.7%	9.1%	9.2%	9.4%	8.9%	9.9%	10.2%	9.9%	10.0%	10.0%	*10.0%*	*10.0%*	Return on Com Equity E	*10.5%*
3.6%	3.1%	3.8%	3.7%	3.6%	4.3%	4.7%	4.5%	4.5%	4.3%	*4.0%*	*4.0%*	Retained to Com Eq	*4.0%*
63%	66%	59%	61%	59%	56%	54%	54%	55%	57%	*62%*	*62%*	All Div'ds to Net Prof	*64%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+.3	+.2	-.6
Large C & I Use (MWH)	23875	24475	23521
Large C & I Revs. per KWH (¢)	6.23	6.47	6.10
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	21258	21429	19583
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.8	+.9	+.9
Fixed Charge Cov. (%)	321	344	358

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	.5%	- -	*.5%*
"Cash Flow"	2.5%	4.5%	*6.5%*
Earnings	5.0%	6.0%	*5.5%*
Dividends	4.0%	4.5%	*6.0%*
Book Value	4.5%	4.5%	*4.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	2783	2579	2822	2731	10915
2014	3203	2685	2870	2928	11686
2015	2962	2515	2902	2645	11024
2016	2772	2500	3040	*2588*	*10900*
2017	*2800*	*2550*	*3000*	*2650*	*11000*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.48	.40	.73	.30	1.91
2014	.52	.39	.73	.39	2.03
2015	.46	.39	.84	.41	2.10
2016	.47	.39	.90	*.44*	*2.20*
2017	*.54*	*.40*	*.90*	*.46*	*2.30*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.27	.27	.28	.28	1.10
2014	.28	.30	.30	.30	1.18
2015	.30	.32	.32	.32	1.26
2016	.32	.34	.34	.34	1.34
2017	.34				

BUSINESS: Xcel Energy Inc. is the parent of Northern States Power, which supplies electricity to Minnesota, Wisconsin, North Dakota, South Dakota & Michigan & gas to Minnesota, Wisconsin, North Dakota & Michigan; Public Service of Colorado, which supplies electricity & gas to Colorado; & Southwestern Public Service, which supplies electricity to Texas & New Mexico. Customers: 3.5 mill. electric, 1.9 mill. gas. Elec. rev. breakdown: residential, 31%; sm. comm'l & ind'l, 36%; lg. comm'l & ind'l, 18%; other, 15%. Generating sources not available. Fuel costs: 43% of revs. '15 reported depr. rate: 2.8%. Has 11,700 employees. Chairman, Pres. & CEO: Ben Fowke. Inc.: MN. Address: 414 Nicollet Mall, Minneapolis, MN 55401. Tel.: 612-330-5500. Internet: www.xcelenergy.com.

Xcel Energy's utility in Minnesota is awaiting a ruling from the state commission on its multiyear regulatory settlement. The settlement between Northern States Power, the commission's staff, and some (but not all) intervenors calls for electric rate increases of $75.0 million in 2016 (plus $37.4 million to compensate the utility because kilowatt-hour sales fell short of expectations), $59.9 million in 2017, no change in 2018, and $50.1 million in 2019. The allowed return on equity would be 9.2%, and the common-equity ratio would be 52.5%. The commission's decision is expected in June, and would be retroactive to 2016. NSP is now collecting an interim tariff hike of $163.7 million.

NSP received a rate order in Wisconsin, Southwestern Public Service got one in Texas, and SPS has a case pending in New Mexico. In Wisconsin, NSP's tariffs were raised by $22.5 million (electric) and $4.8 million (gas) at the start of 2017, based on a return of 10% on a common-equity ratio of 52.5%. In Texas, the regulators approved a settlement calling for an electric increase of $35.2 million, retroactive to July 20, 2016. In New Mexico, SPS filed for an electric hike of $41.4 million, based on a return of 10.1% on a common-equity ratio of 54%. New rates are expected to take effect in the second half of 2017.

Frequent regulatory activity is necessary to reduce the effects of regulatory lag. As a group, Xcel's utilities are underearning their allowed ROE by about eight-tenths of a percentage point. Rate relief is the key factor in the company's earnings growth. Our share-net estimates are within the company's targeted ranges of $2.17-$2.22 and $2.25-$2.35 for 2016 and 2017, respectively.

We expect a dividend increase at the board meeting in February. We think the directors will raise the quarterly disbursement by two cents a share (5.9%). Xcel's goals are annual dividend growth of 5%-7% and a payout ratio of 60%-70%.

This high-quality stock has a valuation that is close to the utility norms. The dividend yield and 3- to 5-year total return potential are about equal to the industry averages.

Paul E. Debbas, CFA *January 27, 2017*

(A) Diluted EPS. Excl. nonrecurring gain (losses): '02, ($6.27); '10, 5¢; '15, (16¢); gains (losses) on discontinued ops.: '03, 27¢; '04, (30¢); '05, 3¢; '06, 1¢; '09, (1¢); '10, 1¢. Next earnings report due early Feb. **(B)** Div'ds historically paid mid-Jan., Apr., July, and Oct. ■ Div'd reinvestment plan available. † Shareholder investment plan available. **(C)** Incl. intangibles. In '15: $5.63/sh. **(D)** In mill. **(E)** Rate base: Varies. Rate allowed on com. eq. (blended): 9.8%; earned on avg. com. eq., '15: 9.5%. Regulatory Climate: Average.

Company's Financial Strength	A+
Stock's Price Stability	100
Price Growth Persistence	55
Earnings Predictability	100