


Putting the “Profit” in “For Profit”: FERC Regulation of Return on Equity

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2



ROE Matter\$

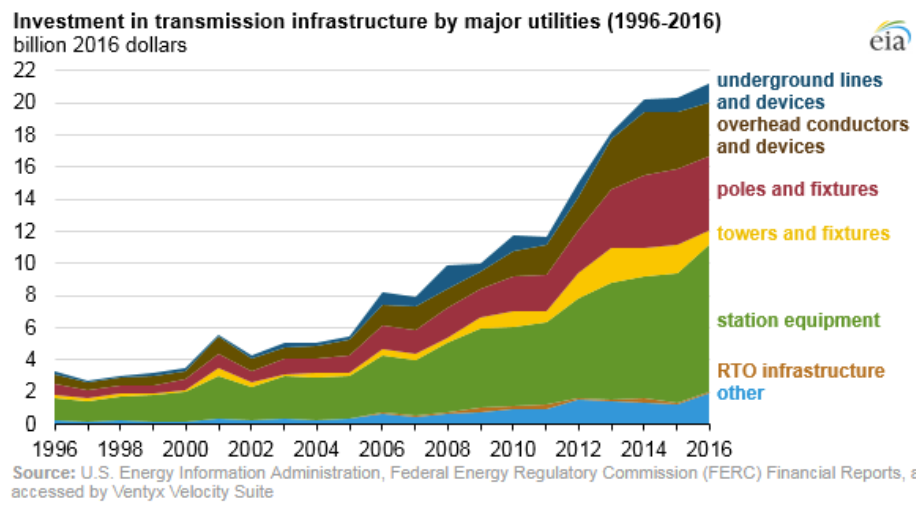
- Est. 2018 US Transmission rate base \cong \$300 Billion
- Est. retail payments for delivered electricity \cong \$400 Billion
- Est. retail payments for electricity transmission \cong \$50 Billion
- Each 100 bp of transmission ROE \cong \$1.5 Billion/year

- Projected 2025 US Transmission rate base \cong \$450 Billion
- Each 100 bp of ROE in 2025 \cong \$2.25 Billion/year

US net transmission investment extrapolates from MISO transmission rate data
 Assumes 50% equity/50% debt capital structure
 EIA Energy Outlook 2018 for retail rates, transmission share, and US electricity consumption
 2025 projection uses EEI transmission addition projections, straight-line 40-year depreciation



Transmission Additions



ROE Legal Framework



- ROE (at least prior to incentives) should be set at cost of equity
- Cost of equity = what investors require to be induced to devote their capital to the assets used in providing the regulated service
- Bedrock principle under Supreme Court *Hope* and *Bluefield* cases and many subsequent cases, including unchallenged ruling in FERC Opinion 531
- So ROE litigation should be principally a factual inquiry into what the subject utility’s equity now costs



5

Section 206 and Refunds



- Section 206 ROE reduction requires two findings:
 - Existing ROE is unreasonable.
 - Specified reduced ROE is reasonable.
 - Both findings can be supported by the same record-based finding of the updated cost of equity, but *Emera Maine* requires that the connection be explained
- 1988 Amendment to Federal Power Act permits 15 months of refunds per complaint (more if utility dilatory). Gas, oil pipeline regulation statutes still don’t provide for refunds.
- FERC allows successive ROE complaints, supported by new data going to later period



6

Section 206 Procedures



- *Prima facie* indication that existing ROE is unreasonable?
 - *La. Pub. Serv. Comm’n v. Sys. Energy Res.*, 124 FERC ¶61,003, P 15 (2008) rejected bare-bones ROE complaint lacking DCF study.
 - *Ark. Pub. Serv. Comm’n v. Sys. Energy Res.*, 160 FERC ¶61,141 (2017) and *La. Pub. Serv. Comm’n v. Sys. Energy Res.*, 164 FERC ¶61,134 (2018) each set for hearing ROE of same utility, because each complainant presented a DCF study (covering different periods)
- If so, mediation then hearing. Multiple testimony rounds, trial, ALJ Initial Decision, FERC ruling ~3 years from complaint filing



7

FERC DCF method to infer cost



- Unlike bond interest, can’t see equity cost directly
- But we know what stock buyers are paying now for rights to a revenue stream (future dividends) sourced in future corporate earnings per share (“EPS”)
- Implicit equity cost = the NPV “discount rate” that aligns recent stock prices with the expected stream of dividend



8

FERC DCF method (cont’d)



- Select proxy stocks with comparable risk
- FERC methods centers on credit (bond) ratings, by Moody’s, S&P
- Proxy ratings must be within one “notch” of the subject utility’s ratings
- Exclude at outset companies engaged in major mergers & acquisitions that could distort their DCF results
- Also exclude some proxy results based on their level and relationship to other proxy results (see [Slide 7](#))



9

FERC DCF method (cont’d)



- Derive each proxy’s Implied Cost of Equity (“ICOE”)
- Representative dividend yield over 6 recent months
- Forecast sustainable dividend growth rate (g) based on near-term and long-term (macroeconomic constraint) EPS growth
 - Stage 1, weighted 2/3: analysts’ projected 3-to-5-year EPS growth
 - Stage 2, weighted 1/3: 50-year forecast GDP growth (~4.3%, including ~2% inflation),
- Adjust yield slightly for payment timing [recent yield*(1+g/2)]
- Adjusted Dividend Yield + Composite Growth = ICOE



10

FERC DCF method (cont'd)



- Filter out proxies with ICOEs considered illogically low or low
 - Too low: <current bond yields+~100 basis points
 - Too high: since 2004, FERC has excluded ICOEs>17.7%, g>13.3%
 - Raise low filter? Lower high filter? Abandon filters? Test for skew?
- Array of retained ICOEs
- General method (single-utility and most RTOs): median of array
- 2006 MISO case: midpoint of array, IF not overly skewed
- Opinions 531 (New England, since vacated) and 551 (MISO, rehearing pending): upper midpoint
- PATH, Opinion 554 (halted Mid-Atlantic project): lower median



Opinion 531 Array and Upper Midpoint



Customers' *Emera Maine* Brief, Showing Opinion 531 DCF Distribution:



Grey fill: Below 10.57%

Crosshatch: Above 10.57%



False premise for vacated Opinion 531



- NETOs predicted (Docket No. EL11-66 Exceptions at 33-35) that in the "very near future," upon termination of the Federal Reserve's then-ongoing "Quantitative Easing," interest rates and DCF inputs and outputs would all rise substantially. FERC seemed to rely on that prediction, citing 10-year treasury yields then below 2%. See Opinion 531, PP 130, 142, 145 & n.285.
- But with 10-year treasury yields back near 3%, utility stock prices have continued to rise, dividend yields have continued to fall, and DCF medians are now consistently well below 9%. Opinion 531 DCF results were not "anomalous."



13

Treasury Yields have risen...

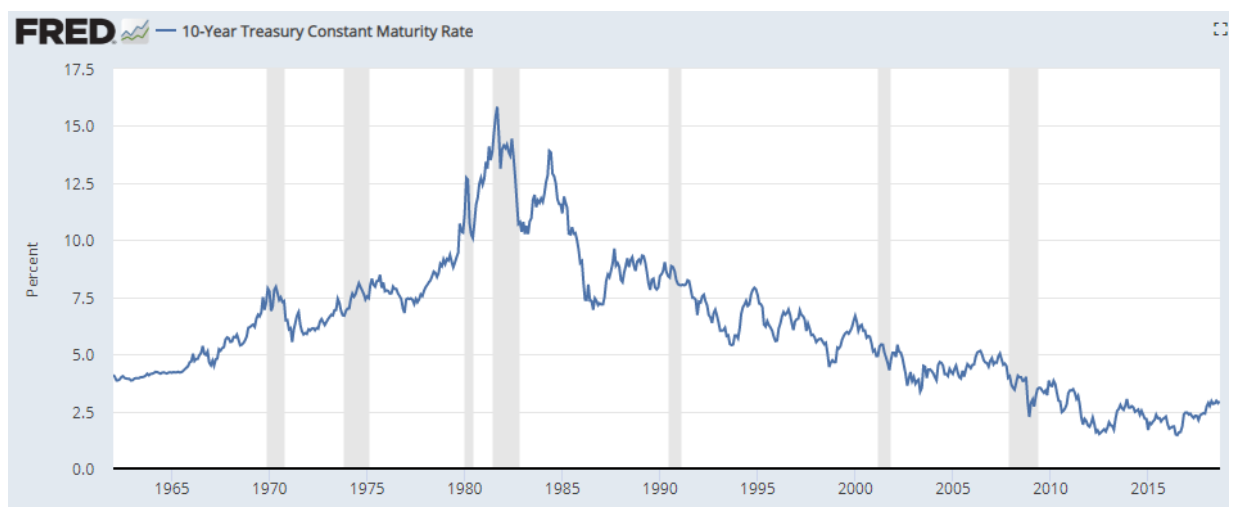
10 Year Treasury Rate



14

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...and align with long-term trend



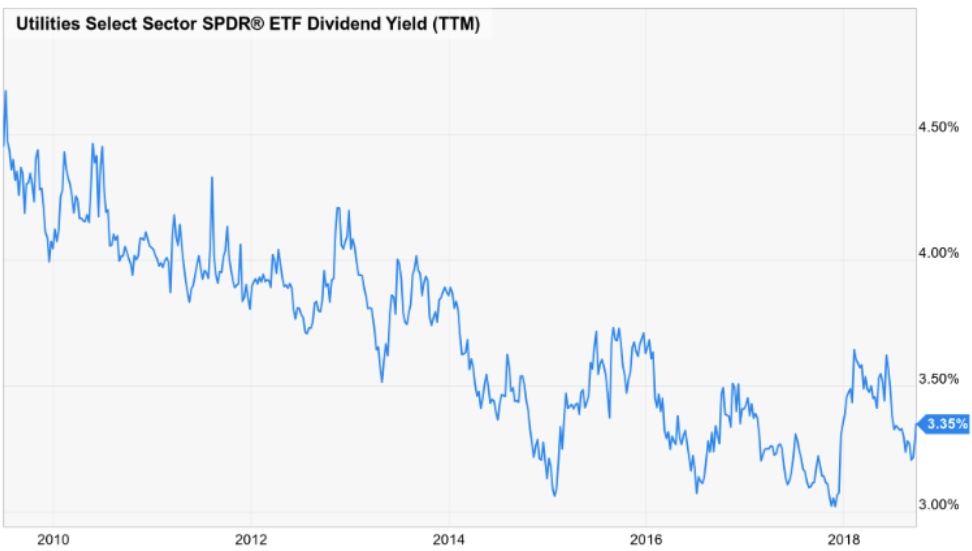
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Yet utility stock prices have kept rising



16

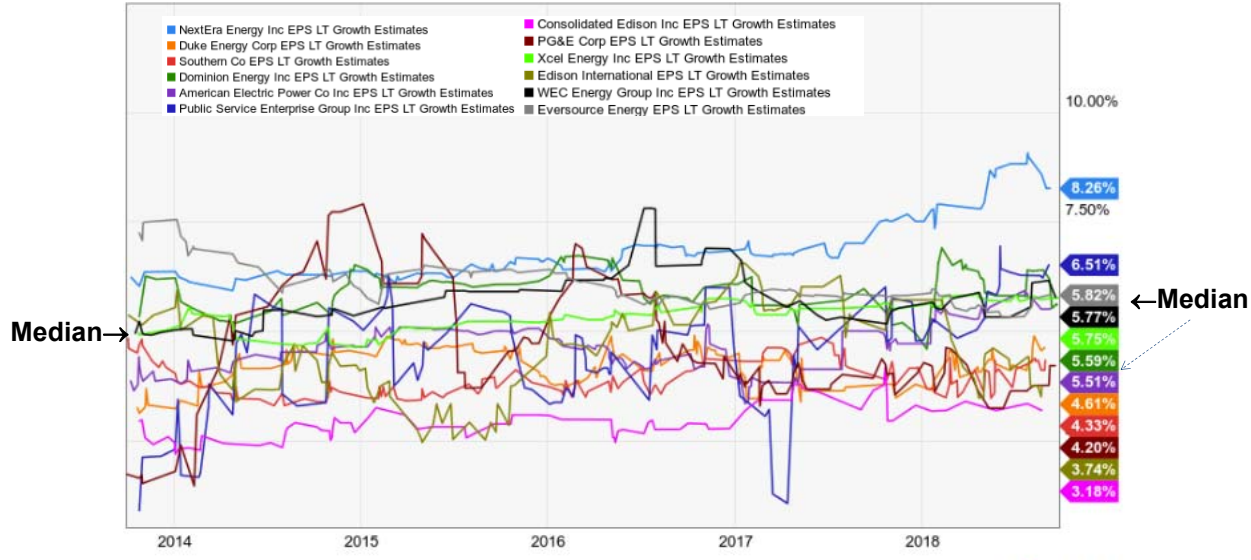
... utility dividend yields have thus dropped...



17

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...while analyst estimates for utility earnings-per-share growth over 3-5 years remained relatively flat in the aggregate (and varied wildly in the particular)



18

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DCF Median Results Now ≈ 8.5%

Constellation Mystic Power, LLC
Docket No. ER18-1639-000

Exhibit No. S-0010
Page 3 of 7

Six-Month Period Ending July 31, 2018

No.	Company	Ticker	Average Dividend Yield	Adjusted Dividend Yield	Growth Rates ["g"]			DCF Result	S&P Credit Rating	Moody's Credit Rating
					Yahoo Finance	GDP	Composite			
1	IDACORP Inc	IDA	2.67%	2.73%	4.00%	4.25%	4.08%	6.81%	BBB	Baa1
2	NorthWestern Corporation	NWE	4.06%	4.12%	2.45%	4.25%	3.05%	7.17%	BBB	Baa2
3	Black Hills Corp	BKH	3.38%	3.45%	3.92%	4.25%	4.03%	7.48%	BBB	Baa2
4	El Paso Electric Co	EE	2.60%	2.66%	5.20%	4.25%	4.88%	7.55%	BBB	Baa1
5	PNM Resources Inc	PNM	2.81%	2.88%	5.15%	4.25%	4.85%	7.73%	BBB+	Baa3
6	Exelon Corp	EXC	3.49%	3.57%	4.19%	4.25%	4.21%	7.78%	BBB	Baa2
7	OGE Energy Corp	OGE	4.02%	4.11%	4.70%	4.25%	4.55%	8.66%	BBB+	Baa1
8	DTE Energy Company	DTE	3.44%	3.53%	5.67%	4.25%	5.20%	8.73%	BBB+	Baa1
9	Ameren Corp	AEE	3.20%	3.29%	6.30%	4.25%	5.62%	8.91%	BBB+	Baa1
10	Public Service Enterprise Group Inc	PEG	3.55%	3.65%	6.34%	4.25%	5.64%	9.30%	BBB+	Baa1
11	CMS Energy Corp	CMS	3.18%	3.28%	6.92%	4.25%	6.03%	9.31%	BBB+	Baa1
12	Otter Tail Corp	OTTR	3.02%	3.13%	9.00%	4.25%	7.42%	10.54%	BBB	Baa2

February 2018	4.42%
March 2018	4.52%
April 2018	4.58%
May 2018	4.71%
June 2018	4.71%
July 2018	4.67%
Average	4.60%
100 basis point adder	1.00%
Lower Limit	5.60%

Median:	8.22%
Range: {	6.81%
	10.54%
Median of UH:	9.10%
Midpoint of UH:	9.38%

8.22%

19

DCF Median Results Now ≈ 8.5%

TWO-STEP DCF MODEL - ELECTRIC GROUP

Exhibit No. AEP-0005
Page 4 of 8

COST OF EQUITY ESTIMATES

Company	(a) (b) (c)		
	IBES - Yahoo Finance	Adj. Yield	Wghtd. Growth DCF
1 ALLETE	3.13%	5.42%	8.55%
2 Alliant Energy	3.39%	5.32%	8.70%
3 Ameren Corp.	3.31%	5.62%	8.93%
4 American Elec Pwr	3.77%	5.14%	8.92%
5 Avangrid, Inc.	3.60%	8.35%	11.95%
6 CMS Energy Corp.	3.29%	6.03%	9.32%
7 Consolidated Edison	3.78%	3.68%	7.46%
8 DTE Energy Co.	3.53%	5.20%	8.73%
9 Duke Energy Corp.	4.73%	4.09%	8.82%
10 Edison International	3.90%	3.71%	7.61%
11 Emera Inc.	5.66%	6.22%	11.87%
12 Entergy Corp.	4.53%	1.32%	5.85%
13 Evergy Inc.	3.07%	7.55%	10.62%
14 Fortis Inc.	4.13%	4.65%	8.78%
15 NextEra Energy, Inc.	2.84%	7.71%	10.55%
16 OGE Energy Corp.	4.11%	4.55%	8.66%
17 Pinnacle West Capital	3.61%	3.94%	7.55%
18 PNM Resources	2.87%	4.52%	7.39%
19 Portland General Elec.	3.45%	3.62%	7.07%
20 PPL Corp.	5.81%	2.86%	8.67%
21 Pub Sv Enterprise Grp.	3.64%	5.64%	9.28%
22 Sempra Energy	3.35%	7.05%	10.40%
23 Southern Company	5.31%	2.92%	8.23%
24 WEC Energy Group	3.62%	4.38%	8.00%
25 Xcel Energy Inc.	3.47%	5.39%	8.86%
Lower End (d)			7.07%
Upper End (d)			11.95%
Median (d)			8.75%
Upper Midpoint			10.35%
Midpoint			9.51%
Upper Midpoint			10.73%

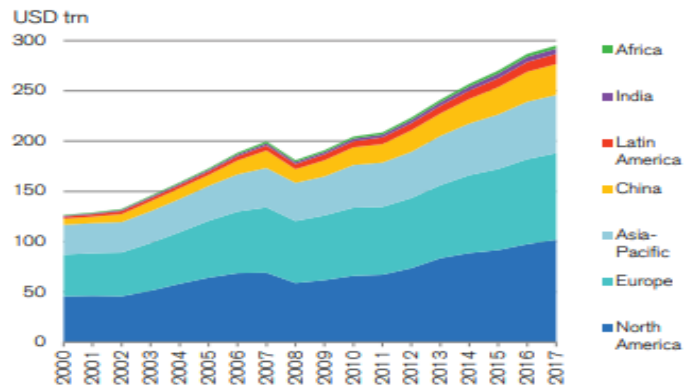
8.75%

(a) Dividend yield x [1 + (Analysis' Growth / 2)].
(b) Analysis' Growth x 2/3 + GDP Growth x 1/3.
(c) (a) * (b).
(d) Excludes highlighted values.

20

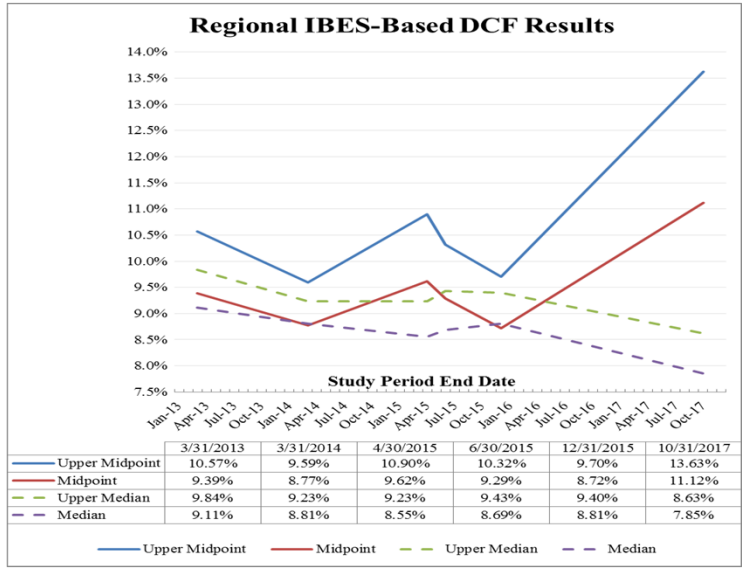
Reduced equity cost reflects economic fundamentals: supply and demand.

Total global wealth 2000–2017, constant exchange rates

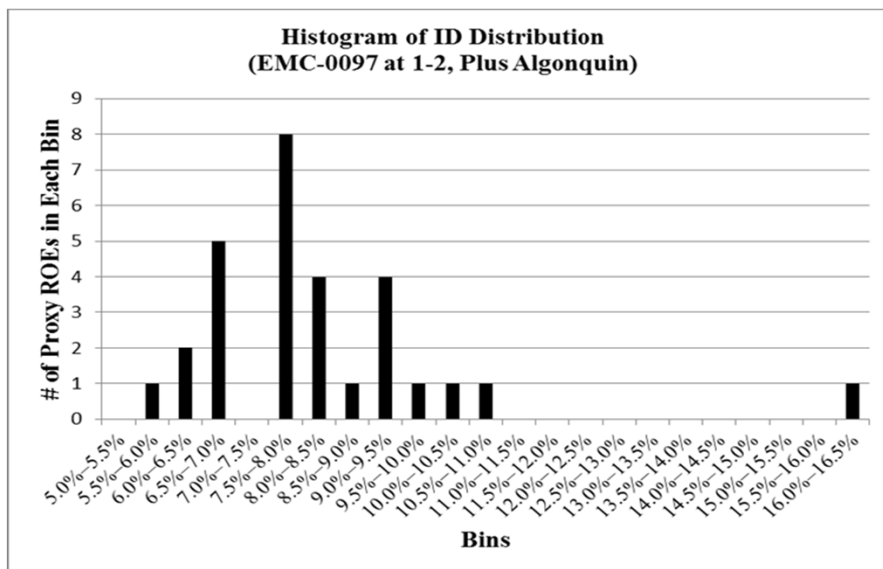


Source: James Davies, Rodrigo Lluberias and Anthony Shorrocks, Credit Suisse Global Wealth Databook 2017

Reliance on midpoint and upper midpoint (in NE, MISO cases) embodies and amplifies statistical noise, masking these trends



Speaking of anomaly...



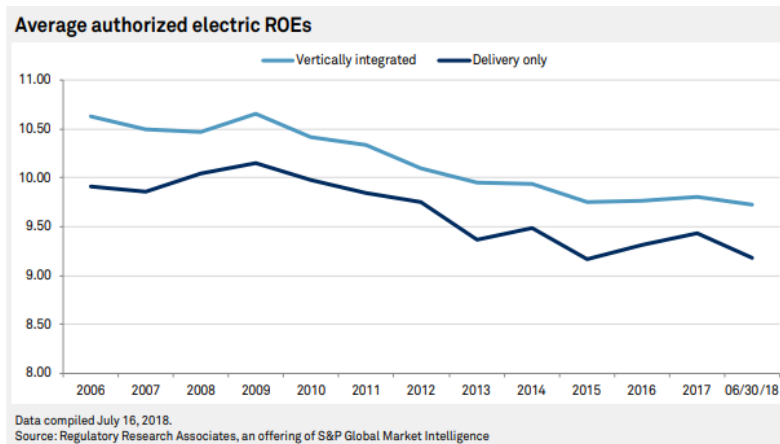
23

EEI, APPA+ ROE Whitepapers



- EEI (Dec. 2017):
 - De-emphasize DCF, look to state ROEs, CAPM, earnings on book-value equity, prior ROE allowances, gas pipeline ROEs
 - And/or tweak DCF to raise its results (raise low threshold, eliminate, dilute, or raise GDP as growth constraint, use higher-risk proxies)
 - Impose procedural limits on ROE complaints
- APPA, NRECA, OMS, TAPS *et al.* (May 2018):
 - Rebutts EEI analysis
 - DCF is a time-tested equity cost estimation method
 - Variability in high-profile case findings is due to midpointing, not DCF
- EEI (Aug. 2018)
 - Bar or raise barriers to successive ("pancaked") ROE complaints
 - Resolve on initial papers whether existing ROE is excessive, before initiating hearings to set replacement ROE

State-regulated returns



“For electric [generation-divested] ...utilities, the average ROE authorized in the first half of 2018 was 9.18% versus 9.43% in all of year 2017.” RRA Regulatory Focus

25

Capital Asset Pricing Model (CAPM)



- Riskless return + (β * [market-wide return – riskless return])
- \pm size adjustment?
- Riskless return typically measured by US Treasuries
- β = volatility relative to market; for utility stocks, ≈ 0.7
- \therefore CAPM result for utilities is generally below market-wide return
- Huge disparities in market-wide return forecasts
 - Long-term historical average $\approx 10\%$, declining over time
 - Independent experts, pensions expect $\approx 7\%$ going forward
 - TO FERC witnesses use $\approx 13\%$, based on near-term EPS forecasts



26



Risk Premium

- Echo past base ROE cases, adjusting for bond yields now vs. then
- As applied by TO witnesses at FERC, past-case data points include settlements, extensions of regional base ROEs to new RTO members, approvals of incentives w/out revisiting base ROE
- Thus confounded, past ROEs didn't vary much with bond yields
- ∴ Risk premium method indicates ROEs are invariate



27



Expected Earnings (on book equity)

- Based on projected (~ 5 years out) earnings/book value equity
- Utility stocks' market/book ratio is generally > 1 (avg ≈ 1.7)
- $\text{Earnings/Book} = (\text{Earnings/Price}) * (\text{Price/Book})$
- ∴ At historically typical P/E (market price/earnings) ratio of 15x, expected earnings ≈ $(1/15) * 1.7 = 11.33\%$
- Not a market-based method; investor opportunity is to purchase equities at *market* price, rather than book price



28

Initial Decision on PG&E ROE



- 165 FERC ¶ 63,001, FERC Docket No. ER16-2320 (Oct. 1, 2018)
- Seven proxies; DCF results 6.94% to 9.13% (median 7.83%).
- Rejects PG&E calls for more proxies and ↑ tweaks to DCF method
- But sets ROE at the DCF range top, 9.13%, because the four non-DCF methods referenced in Opinion 531 pointed higher
- Rejects criticisms to those methods because vacated Opinion 531 referenced them
- But suggests reverting to DCF-only when 10-year treasury yields > 3% -- AS THEY NOW ARE



29

Range tops vary wildly, reflecting each month's highest point on charts like this:



30

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Willard: They told me that you had gone totally insane, and that your methods were unsound.

Kurtz: Are my methods unsound?

Willard: I don't see any method at all, sir.



31

Incentive ROE Adders

- Adders applied to recipient's entire transmission rate base
 - RTO participation: 50 bp, but see *Cal. PUC v. FERC, No. 16-70481* (9th Cir. Jan. 8, 2018): What consumer benefit where state law requires RTO?
 - Independence from market participants: 50, 100 bp adders approved for three ITC Cos. (IA/MI/MN), at issue in FERC EL18-140
 - Affiliated transco: Denied to transcos with public-power passive ownership (ATCLLC, South Central MCN), approved (50 bp) for non-incumbent (NextEra Energy Transmission NY)
- Limited by DCF zone, per Order 679 and subsequent cases
- Project-specific adders, varying amounts (25-150 bp)



32



Project-Specific ROE Adders

- Ameren (Illinois) Grand Rivers Project, 162 FERC ¶ 61,099 (Feb. 13, 2018): 100 bp adder denied. Project nearly complete, and Ameren “failed to demonstrate that the remaining risks and challenges...warrant the requested ROE Incentive.
- NextEra (NY) Empire Project, 162 FERC ¶ 61,196 (Mar. 5, 2018): 50 bp adder granted, mainly for “reliev[ing] chronic or severe congestion that has had demonstrated cost impacts to consumers.”
- Pioneer (Indiana, AEP+Duke), 164 FERC ¶ 61,155 (Aug. 30, 2018): 150 bp adder granted in 2009 for then-contemplated 240-mile project linking MISO and PJM held inapplicable while Pioneer has completed only a 65-mile, within-MISO segment.



33

Questions?



34