

2019 State Assessed Property Spring Forum

March 5, 2019



Agenda

- Welcome
- Department of Revenue data points for 2019
- Stakeholder presentations
- Open discussion



2019 Cap Rate Data Points

Holly Soderbeck

Data Points

- **Band of Investment Method**
- **Guideline Companies**
- **Capital Structure**
- **Cost of Debt**
- **Cost of Equity**
 - **CAPM** - Risk Free rate, beta, equity risk premium
 - **Dividend Growth Model** – projected growth
- **Growth of U.S. Economy, Inflation**
- **Direct Equity Component**

Capitalization Rate Study

Band of Investment Method

	Capital Structure	×	Market Rate	=	Weighted Rate
Debt	50%	×	6%	=	3%
Equity	50%	×	10%	=	5%
Combined Rate				=	8%

Guideline Company Selection

Considerations:

- Value Line industries
- Standard industrial classification codes
- Location
- Business segments
- Recent or current mergers/acquisitions
- Recent initial public offering

Guideline Company Selection

Department's Market Segment	Value Line Industry
Electric	Electric utility (central, east, and west)
Gas distribution	Natural gas utility
Fluid transportation pipeline or gas transmission pipeline	Pipeline MLPs, natural gas diversified, oil/gas distribution
Class I railroad or other railroad	Railroad

Guideline Company Selection

Electric

Unchanged

ALLETE Inc.
Alliant Energy Corp.
American Electric Power Co Inc.
Ameren Corp.
Black Hills Corp.
CMS Energy Corp.
DTE Energy Company
Entergy Corp.

MGE Energy Inc.
Northwestern Corp.
OGE Energy Corp.
Otter Tail Corp.
WEC Energy Group
Xcel Energy Inc.

Removed

CenterPoint Energy Inc.
Vectren Corp.

Guideline Company Selection

Gas Distribution

Unchanged

Atmos Energy Corp.
Chesapeake Utilities Corp.
New Jersey Resources Corp.
NiSource Inc.
Northwest Natural Gas Co.
South Jersey Industries
Southwest Gas
Spire Inc.

New

ONE Gas Inc.

Removed

RGC Resources Inc.

Guideline Company Selection

Gas Transmission Pipeline

Unchanged

Kinder Morgan Inc.

New

ONEOK Inc.

TransCanada Corp.

Williams Companies

Removed

Boardwalk Pipeline Partners LP

Enterprise Products Partners LP

TC PipeLines LP

Williams Partners LP

Guideline Company Selection

Fluid Transportation Pipeline

Unchanged

Buckeye Partners LP
Holly Energy Partners LP
Magellan Midstream Partners LP
Plains All American Pipeline L.P.

New

Phillips 66 Partners LP

Removed

Enbridge Energy Partners LP
NuStar Energy LP

Guideline Company Selection

Railroad – Class I and Other

Unchanged

Canadian National Railway

Canadian Pacific Railway

CSX Corp.

Genesee & Wyoming

Kansas City Southern

Norfolk Southern Corp.

Union Pacific Corp.

Capitalization Rate Inputs

2019 vs. 2018 Capital Structure

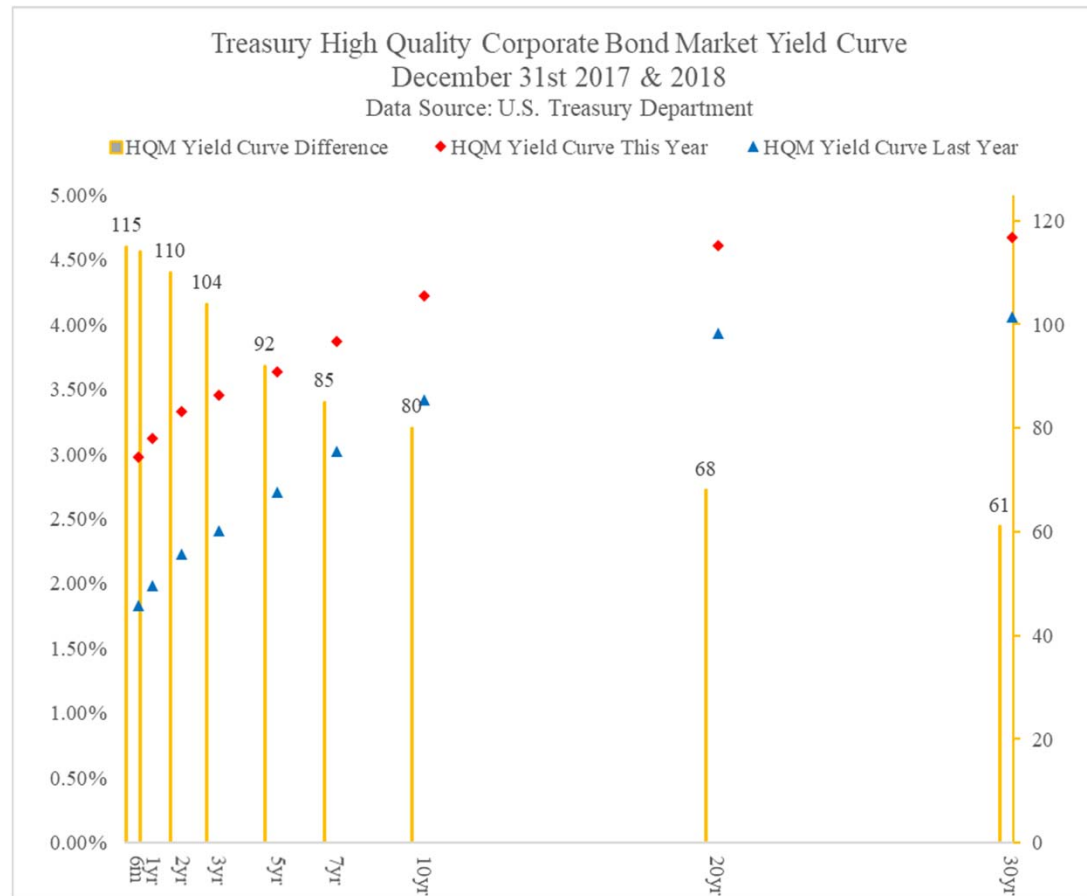
Capital Structure	2019 AY (Avg.)		2018 AY	
	Debt	Equity	Debt	Equity
Electric	34%	66%	32%	68%
Gas Distribution	27%	73%	28.5%	71.5%
Gas Transmission Pipeline	38%	62%	40%	60%
Fluid Transportation Pipeline	34%	66%	41%	59%
Railroad, Class I	17%	83%	18%	82%
Railroad, Others	33%	66%	35%	65%

Capitalization Rate Inputs

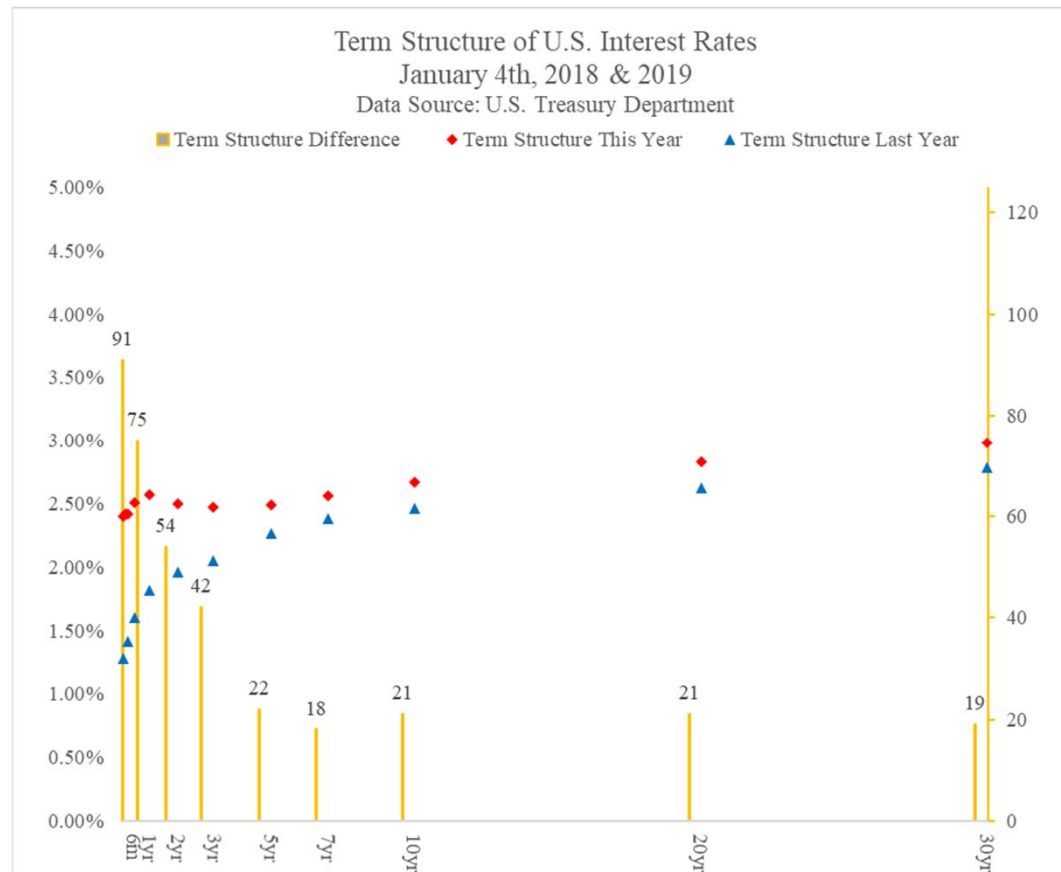
2019 vs. 2018 Cost of Debt

Cost of Debt	2019 AY (Avg.)	2018 AY
Electric	4.51%	3.92%
Gas Distribution	4.52%	4.03%
Gas Transmission Pipeline	5.28%	4.56%
Fluid Transportation Pipeline	5.63%	4.81%
Railroad, Class I	4.62%	4.49%
Railroad, Others	4.77%	7.19%

Capitalization Rate Inputs

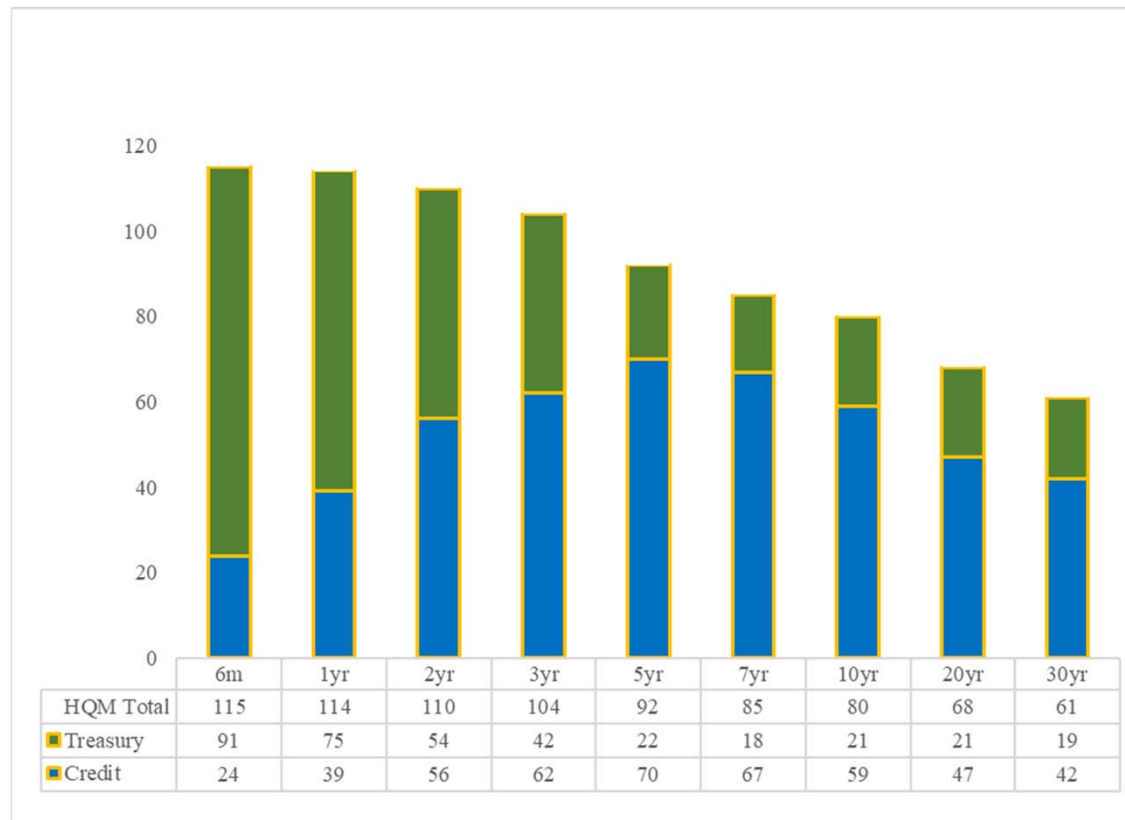


Capitalization Rate Inputs



Capitalization Rate Inputs

Cost of Debt Increases – Treasury Vs. Credit Markets



Cost of Equity

Capital Asset Pricing Model

$(\text{Equity Risk Premium} \times \text{Market Segment Beta}) + \text{Risk Free Rate}$

Dividend Growth Model

$\text{Dividend Yield} + \text{Projected Market Segment Growth}$

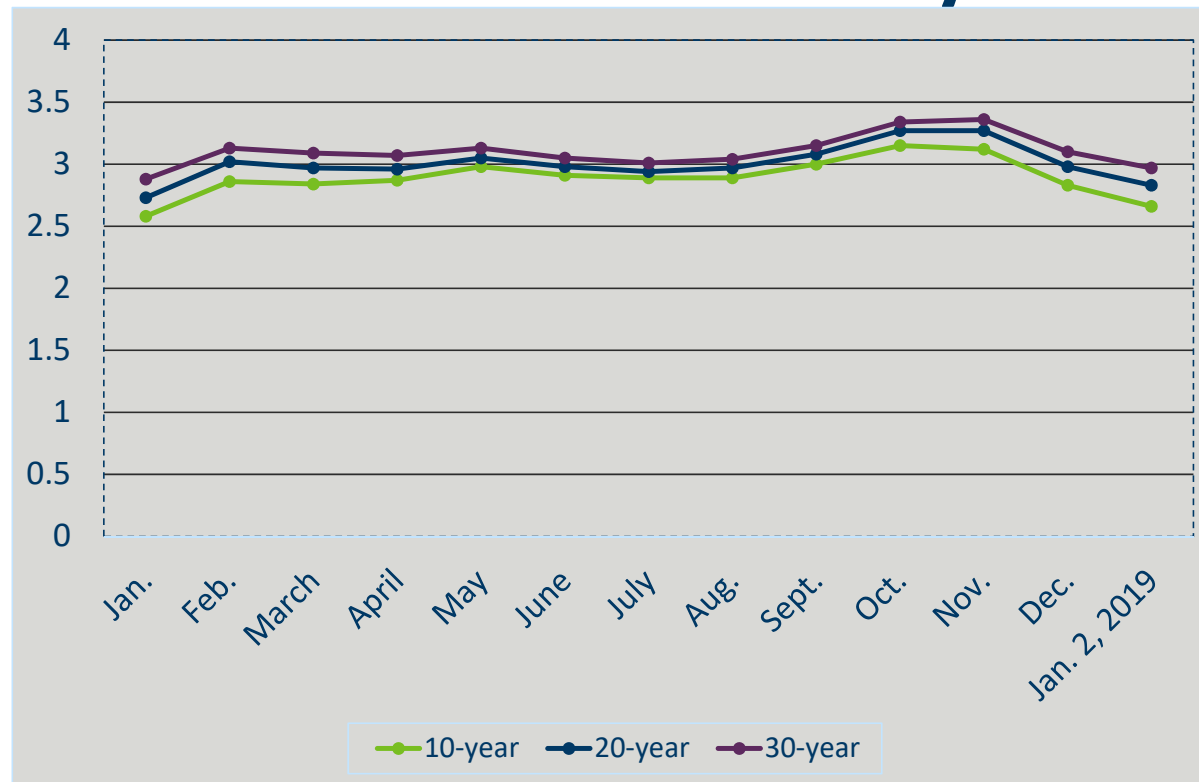
Capitalization Rate Inputs

2019 vs. 2018 Risk Free Rate

Risk-free rate	2019 AY	2018 AY
Market yield on U.S. Treasury Securities at 30-year	2.97%	2.81%

Capitalization Rate Inputs

Market Yield on U.S. Treasury Securities



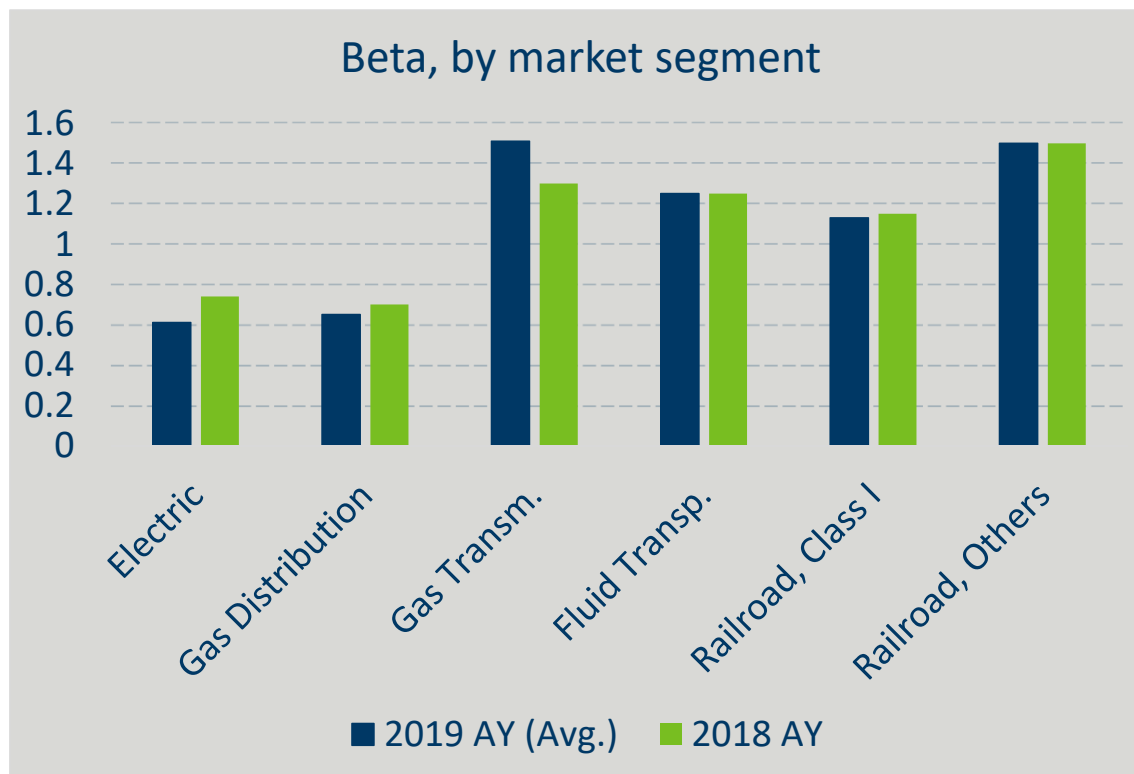
Capitalization Rate Inputs

2019 vs. 2018 Betas

Market Segment	2019 AY (Avg.)	2018 AY
Electric	0.61	0.74
Gas Distribution	0.65	0.70
Gas Transmission Pipeline	1.51	1.30
Fluid Transportation Pipeline	1.25	1.25
Railroad, Class I	1.13	1.15
Railroad, Others	1.50	1.50

Capitalization Rate Inputs

2019 vs. 2018 Betas



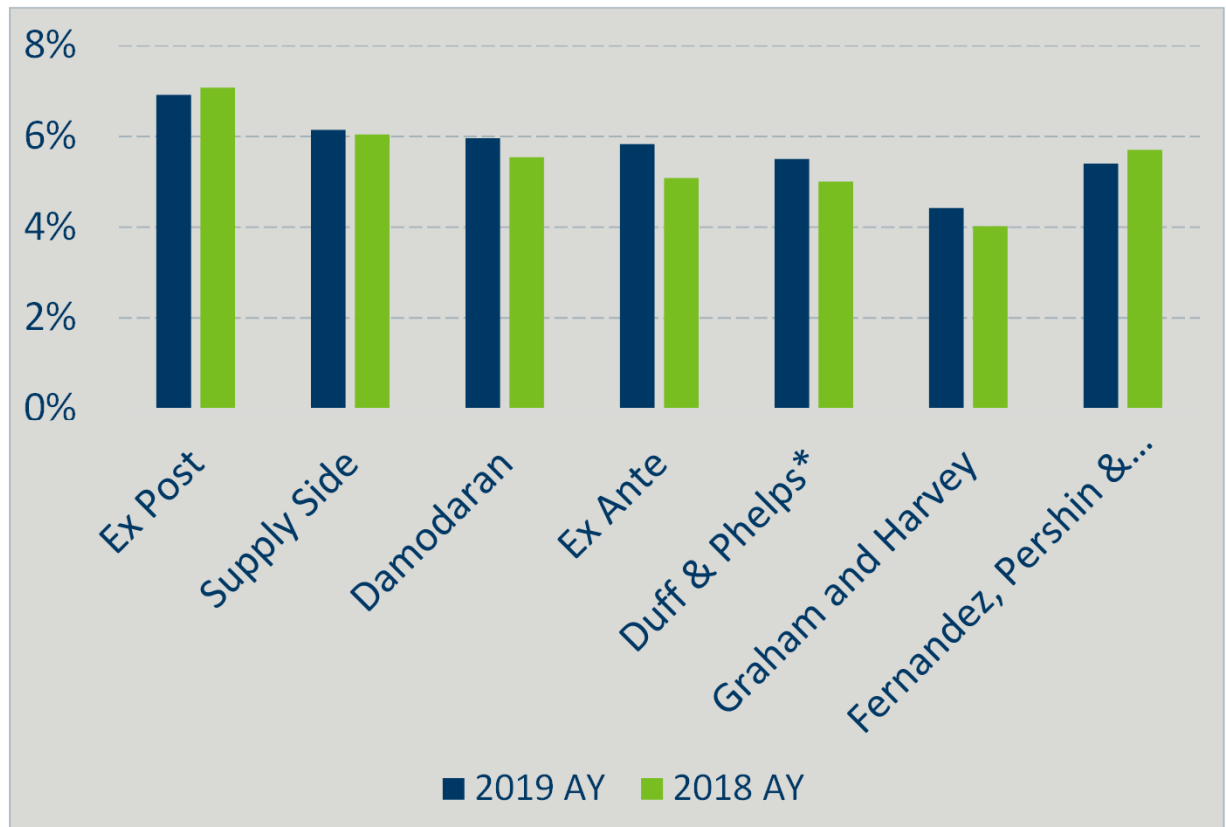
Capitalization Rate Inputs

2019 vs. 2018 Equity Risk Premium

Equity Risk Premium	2019 AY	2018 AY
Ex Post (Historical Long-Term)	6.91%	7.07%
Supply Side	6.14%	6.04%
Damodaran	5.96%	5.54%
Ex Ante	5.83%	5.08%
Duff & Phelps*	5.50%	5.00%
Graham and Harvey	4.42%	4.02%
Fernandez, Pershin & Acin	5.40%	5.70%

Capitalization Rate Inputs

2019 vs. 2018 Equity Risk Premium



Capitalization Rate Inputs

2019 vs. 2018 Growth Rates

Market Segment	2019 AY		2018 AY (Avg.)	
	Earnings	Dividends	Earnings	Dividends
Electric	5.66%	5.28%	5.87%	5.33%
Gas Distribution	9.50%	6.50%	6.25%	4.94%
Gas Transmission Pipeline	12.78%	---	14.88%	---
Fluid Transportation Pipeline	12.33%	---	15.91%	---
Railroad (Class I & Other)	10.90%	9.40%	9.08%	7.92%

Capitalization Rate Inputs

2019 Growth Rates – Pipeline Market Segment

Company	S&P	Yahoo	Zack's	Average
Pipeline Guideline Company A	10%	5%	15%	10%
Pipeline Guideline Company B	5%	20%	15%	13%
Pipeline Guideline Company C	8%	16%	32%	19%
Median				13%

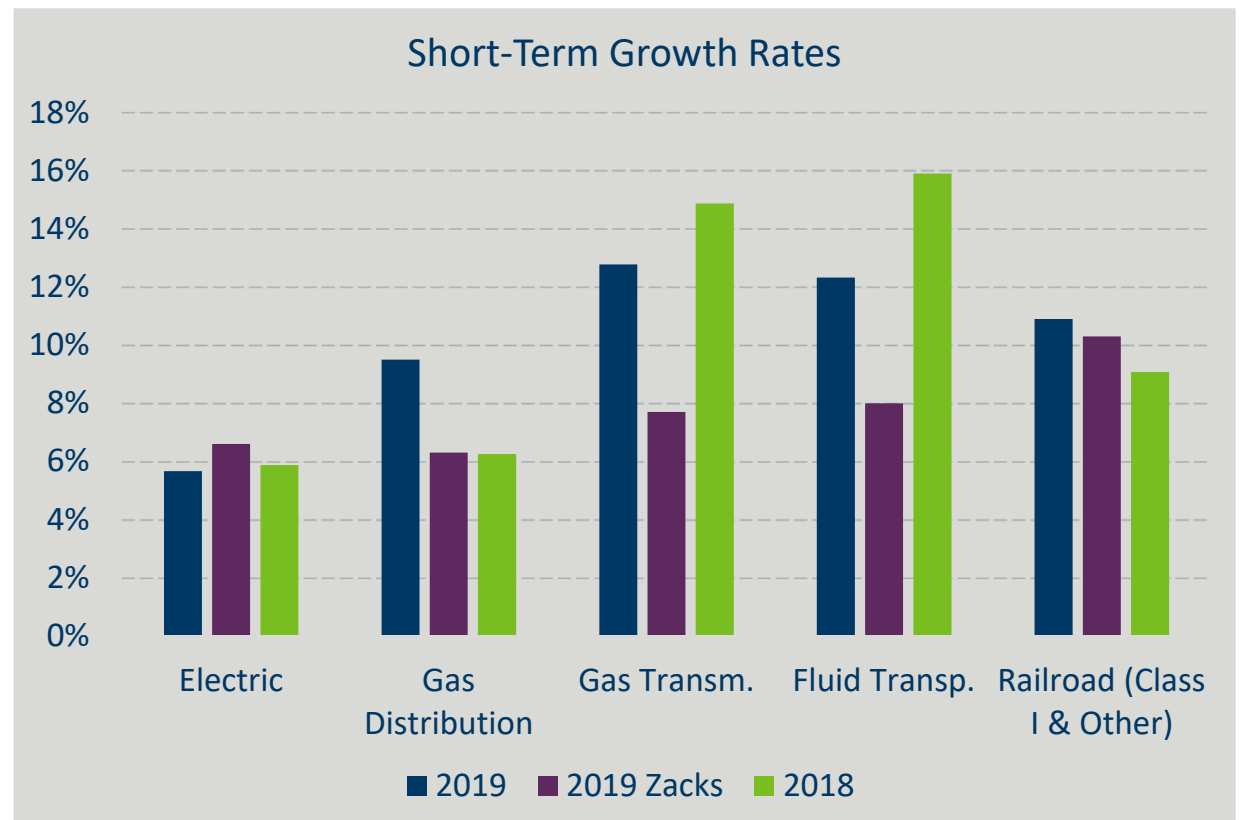
Capitalization Rate Inputs

Industry Growth Projections from Zacks Investment Research

Market Segment	2019 AY
Electric	6.60%
Gas Distribution	6.30%
Gas Transmission Pipeline	7.70%
Fluid Transportation Pipeline	8.00%
Railroad (Class I & Other)	10.30%

Capitalization Rate Inputs

Avg. Projected Growth Rates



Capitalization Rate Inputs

2019 vs. 2018 Long-term Growth Rates

Forecasts for Growth in GDP	2019 AY	2018 AY
World Bank, 2020	1.17%	2.91%
Trading Economics, 2020	1.90%	2.60%
Congressional Budget Office, (2019 estimate is for 2024 to 2029 and 2018 estimate is for 2018 to 2028)	1.80%	1.90%

Capitalization Rate Inputs

2019 vs. 2018 Inflation Rates

Estimated Inflation (using inflation indexed and non-inflation indexed U.S. Treasury Securities)	2019 AY	2018 AY
10-Year	1.70%	1.87%
20-Year	1.76%	1.91%
30-Year	1.78%	1.74%

Capitalization Rate Inputs

2019 vs. 2018 Direct Capitalization Rate – Equity Component

Equity Component for Direct Rate	2019 AY	2018 AY
Electric	4.68%	4.72%
Gas Distribution	4.26%	4.02%
Gas Transmission Pipeline	5.15%	5.65%
Fluid Transportation Pipeline	8.73%	5.54%
Class I Railroads	5.71%	5.54%
Other Railroads	5.56%	5.21%



Questions?



Minnesota Department of Revenue
Spring Forum – March 5, 2019

Capitalization Rate Issues

Presented By Xcel Energy



Summary of Issues

➤ Capitalization Structure for 2019

- Should be similar to prior years (2018 was 32% debt/ 68% equity)

➤ Cost of Debt has increased for 2019

- The electric industry cost of BBB rated debt is approximately 4.75%
- The MDOR should not use the Debt YTM Analysis as presented in 2018

➤ Cost of Equity is similar to last year

- The DGM based on earnings growth should be given substantial reliance
- CAPM and Empirical CAPM – Beta should remain at .70 for electrics

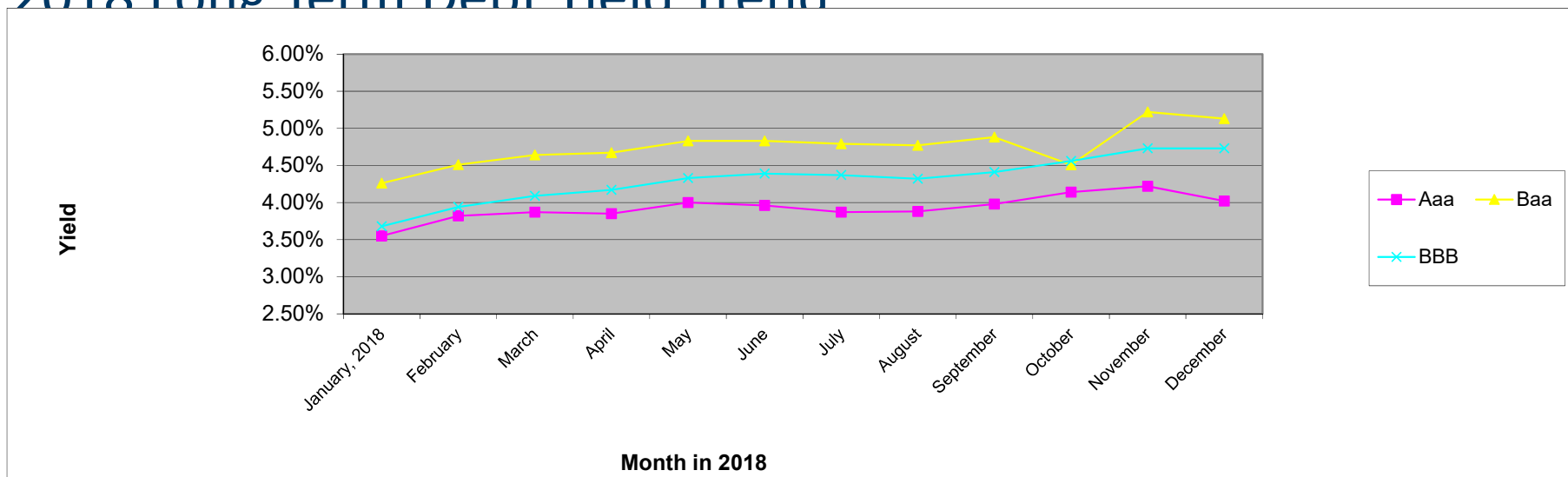
➤ MDOR EO analysis based on market to book ratios is flawed and should be discontinued

Capital Structure

➤ Based on *Value Line* data the Capital structure for 2019 is very similar to 2018

- In 2018 MDOR used 68% Equity/32% Debt for Electric Utilities

2018 Long Term Debt Yield Trend



- Long term debt yields rose over the course of 2018
- The predominant rating in the industry is BBB/Baa
- For 2019 the appropriate electric company cost of debt is about 4.75%
- End of Year Baa = 5.13% BBB = 4.73%
- Average for Year Baa = 4.75% BBB = 4.31%
- Median for Year Baa = 4.78% BBB = 4.35%

Use Long Term Debt Analysis that Best Reflects Cost to the Company

The MDOR should use the common generally accepted method to calculate the cost of debt

- For property tax valuations we are looking at long term holding of the controlling interest in the utility
 - Not what an investor buying the remaining few years of an old issue may achieve
- Mergent, S & P and Federal Reserve look at recently issued debt and calculate the effective yield for the long term investment
 - Method is used by most state jurisdictions and financial consultants to the electric utility industry
 - Method is most reflective of the cost the company will incur on debt issued for a purchase of the utility as per the definition of market value
 - The MN Tax Court's recent ruling showed a preference for the use of more current debt data

Use Long Term Debt Analysis that Best Reflects Cost to the Company

The MDOR should not use the YTM analysis first presented in the 2018 MN Capitalization Report

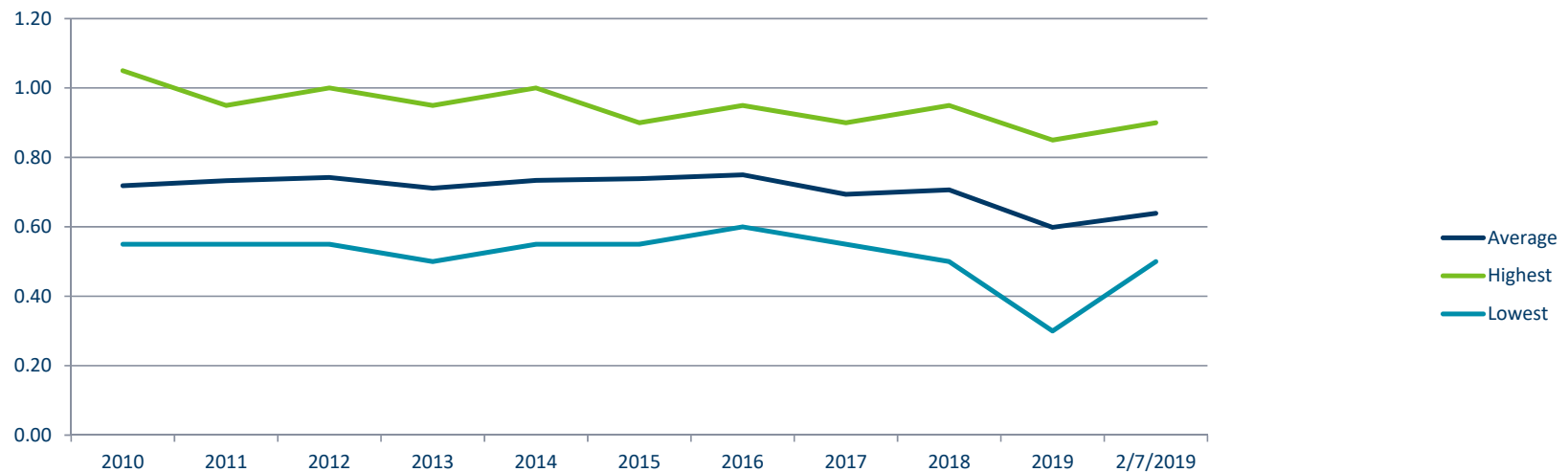
- The analysis as presented in the 2018 MDOR Capitalization Rate Report lacks explanation of a completely new methodology
- Averaging all debt offerings equally skews the result with too much weight given to tiny issues
- Analysis uses comparison of very old debt issues to the current Treasury High Quality Market (HQM)
 - MN Tax Court's recent ruling showed a concern with the use of such old data

Cost of Equity

Cost of Equity should be similar to last year

- DGM (Earnings Growth) remains most viable approach and should be given most reliance
 - Best indicator of investor expectations
- Ex Ante CAPM – based on the methodology used by Xcel Energy and other state jurisdictions should be given secondary weight
- Ex Post CAPM should not be given any weight
 - Influence of suspect beta and safe rate is an issue
- Empirical CAPM should get minimal weight
- Damodaran Implied ERP is not broadly accepted and should not be used
 - Damodaran offers Ex Post CAPM data (Arithmetic means of LT S&P 500 returns and LT yields on government bonds) which is more broadly accepted and can be included
- Multi-stage DGM is difficult to support because of 100 year forecasting
- For 2019 the average return on common equity is 9.59% based on *Value Line Data*

Ten Year History of beta for Electric Industry



- The long term average is .70 (until 2018 beta has been very consistent)
- During the first quarter of 2019 the trend is back to the historic average
- Xcel Energy plans to use .70

Calculation of MKT/Book Ratios Used in MDOR Capitalization Rate Report

- A company's market to book ratio will be under 1 when it is going out of business or has been hit with a catastrophic event
 - PG&E data results in a mkt/book of 0.18 – should CA reduce the value of those assets by 82% or is this something other than obsolescence
- EO is **NOT** impairment or insolvency – can be temporary or permanent
 - Must be from an outside source
- If income approach is less than NBV there is likely some level of EO present
 - Regulated utilities earn a return on less than invested capital

Conclusion

- MDOR uses unique, untested methodologies for cost of debt and cost of equity that are not generally accepted procedures in the valuation industry
- The MDOR capitalization rates are the lowest when compared to neighboring states and the states where the selected guideline companies for their capitalization rate report do business
- We recommend the MDOR adopt more generally accepted principles in capitalization rate derivation and in company analysis
- We recommend the MDOR use
 - Capital structure in the range of 32% debt/68% equity
 - Cost of debt between 4.50% and 5.00%
 - Cost of equity between 9.20% and 9.30%



Discussion

Thank you!

State Assessed Property Section

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