Department of Revenue Washington State

COST OF CAPITAL STUDY

YIELD CAPITALIZATION

2021 Assessment Year

APPENDIX C

Electric Industry

EQUITY RATE						**8.75%**	
CAPITAL ASSET PRICING MODEL							PAGE
CAPM Ex Ante			5.05%				4
DIVIDEND GROWTH MODELS Single Stage							
Value Line, based on Dividends Growth			8.75%				6
Value Line, based on Earnings Growth			9.00%				7
Value Line, based on Return on Equity			6.50%				8
FCFE GROWTH MODEL Multi Stage			7.50%				9
					RANGE	**5.05-9.0%**	
DEBT RATE						**3.00%**	10
MARKET CAPITAL STRUCTURE							
Equity	55%	x	8.75%	=		4.81%	3
Debt	45%	x	3.00%	=	1.35%		3
Marginal Tax Rate	24%	=	(1-.24)	x	1.35%	1.03%	
WEIGHTED AVERAGE COST OF CAPITAL						**5.84%**	

SUPPORT FOR GUIDELINE COMPANIES

Washington State Department of Revenue

2021 Assessment Year

Electric Industry

Capital Structure at Book Value

Company	Ticker	Beta	Fin'l Strength	P/E Ratio	Div'd Yield	Common Stock	%	Preferred Stock	%	Long Term Debt	%	Total Debt & Equity
Alliant Energy Corp	lnt	0.85	A	19.1	3.0%	5,687,041,200	44.2%	400,000,000	3.1%	6,769,000,000	52.7%	12,856,041,200
Ameren Corp	aee	0.80	A	20.4	2.6%	8,938,957,000	44.3%	142,000,000	0.7%	11,078,000,000	55.0%	20,158,957,000
Avangrid Inc	agr	0.85	B++	23.0	3.9%	15,249,150,000	68.3%			7,081,000,000	31.7%	22,330,150,000
Avista Corp	ava	0.95	B++	22.2	4.1%	2,025,150,000	49.6%			2,060,800,000	50.4%	4,085,950,000
Black Hills	bkh	1.00	A	16.4	3.6%	2,499,162,000	41.5%			3,526,900,000	58.5%	6,026,062,000
CMS Energy Corp	cms	0.75	B++	20.8	2.7%	5,495,638,800	28.6%	37,000,000	0.2%	13,690,000,000	71.2%	19,222,638,800
CenterPoint Energy Inc	cnp	1.15	B+	15.2	4.2%	5,943,660,800	30.9%	1,778,000,000	9.2%	11,521,000,000	59.9%	19,242,660,800
Chesapeake Utilities	cpk	0.80	A	25.4	1.6%	643,125,000	55.3%			520,000,000	44.7%	1,163,125,000
Consolidated Edison	ed	0.75	A+	17.5	4.3%	19,019,350,000	49.8%			19,206,000,000	50.2%	38,225,350,000
Dominion Energy	D	0.80	B++	17.7	4.6%	23,320,000,000	40.2%	1,596,000,000	2.7%	33,145,000,000	57.1%	58,061,000,000
DTE Energy Co	dte	0.95	A	16.8	3.4%	12,424,532,400	39.5%			19,001,000,000	60.5%	31,425,532,400
Duke Energy Corp	duk	0.85	A	18.8	4.2%	46,336,600,000	44.8%	973,000,000	0.9%	56,049,000,000	54.2%	103,358,600,000
Entergy Corp	etr	0.95	B++	12.7	3.8%	10,925,094,400	33.7%	254,400,000	0.8%	21,206,000,000	65.5%	32,385,494,400
Eversource Energy	es	0.90	A	24.9	2.6%	14,817,750,000	47.2%	155,600,000	0.5%	16,415,000,000	52.3%	31,388,350,000
Exelon Corp	exc	0.95	B+	14.0	3.7%	33,184,000,000	48.0%			35,902,000,000	52.0%	69,086,000,000
FirstEnergy Corp	fe	0.85	B+	24.6	5.2%	7,221,900,000	24.0%	707,000,000	2.3%	22,203,000,000	73.7%	30,131,900,000
Fortis Inc	fts.to	0.75	B++	19.1	4.9%	17,201,580,000	40.7%	1,623,000,000	3.8%	23,444,000,000	55.5%	42,268,580,000
Hawaiian Electric	he	0.80	A	17.4	3.8%	2,376,000,000	53.0%	34,300,000	0.8%	2,068,900,000	46.2%	4,479,200,000
Idacorp Inc	ida	0.80	A	18.5	2.9%	2,570,490,000	56.2%			2,000,400,000	43.8%	4,570,890,000
MGE Energy Inc	mgee	0.70	A+	25.2	2.1%	976,041,600	64.5%			536,800,000	35.5%	1,512,841,600
NorthWestern Corp	nwe	0.95	B++	17.8	4.1%	2,079,660,000	48.5%			2,204,400,000	51.5%	4,284,060,000
OGE Energy Corp	oge	1.05	A	14.2	5.0%	3,631,815,000	51.0%			3,494,400,000	49.0%	7,126,215,000
Otter Tail Corp	ottr	0.85	A	17.6	3.5%	870,870,000	58.2%			624,400,000	41.8%	1,495,270,000
PNM Resources Inc	pnm	0.95	B+	19.8	2.4%	2,042,754,000	44.8%	11,500,000	0.3%	2,509,800,000	55.0%	4,564,054,000
Portland General Electric	por	0.85	B++	14.3	3.7%	2,592,472,500	49.4%			2,657,000,000	50.6%	5,249,472,500
Public Service Enterprise G	peg	0.90	A++	15.8	3.4%	15,907,500,000	51.8%			14,792,000,000	48.2%	30,699,500,000
Sempra Energy	sre	1.00	A	18.4	3.3%	20,981,500,000	46.6%	2,278,000,000	5.1%	21,770,000,000	48.3%	45,029,500,000
WEC Energy Group Inc	wec	0.80	A+	24.9	2.8%	10,469,121,700	47.1%	30,400,000	0.1%	11,728,000,000	52.8%	22,227,521,700
Xcel Energy Inc	xel	0.80	A+	23.0	2.6%	14,687,750,000	42.4%			19,960,000,000	57.6%	34,647,750,000
Mean		**0.87**		**19.2**	**3.5%**	**10,693,747,117**	**46.4%**		**2.2%**	**13,350,475,862**	**52.6%**	
Harmonic Mean		**0.86**					**44.1%**		**0.6%**		**51.0%**	
Weighted Mean						**310,118,666,400**	**43.8%**	**10,020,200,000**	**1.4%**	**387,163,800,000**	**54.7%**	**707,302,666,400**
Median		**0.85**			**3.6%**		**47.1%**		**0.9%**		**52.3%**	

SUPPORT FOR CAPITAL STRUCTURE Market Value

Washington State Department of Revenue

2021 Assessment Year

Electric Industry

Company	Ticker	Stock Price	Common Shares	Common Stock	%	Preferred Stock	%	Long Term Debt	%	Total Debt & Equity
Alliant Energy Corp	lnt	51.11	249,870,000	12,770,855,700	60.0%	400,000,000	1.9%	8,109,000,000	38.1%	21,279,855,700
Ameren Corp	aee	78.06	253,300,000	19,772,598,000	59.5%	142,000,000	0.4%	13,315,000,000	40.1%	33,229,598,000
Avangrid Inc	agr	45.02	309,000,000	13,911,180,000	53.3%	-		12,166,000,000	46.7%	26,077,180,000
Avista Corp	ava	39.70	69,000,000	2,739,300,000	52.0%	-		2,527,587,000	48.0%	5,266,887,000
Black Hills	bkh	60.89	61,480,000	3,743,517,200	47.1%	-		4,208,167,000	52.9%	7,951,684,200
CMS Energy Corp	cms	60.55	288,940,000	17,495,317,000	49.9%	37,000,000	0.1%	17,512,000,000	50.0%	35,044,317,000
CenterPoint Energy	cnp	21.48	551,360,000	11,843,212,800	31.4%	1,778,000,000	4.7%	24,038,000,000	63.8%	37,659,212,800
Chesapeake Utilities	cpk	108.21	17,500,000	1,893,675,000	77.5%	-		548,500,000	22.5%	2,442,175,000
Consolidated Edison	ed	71.48	343,000,000	24,517,640,000	47.8%	-		26,808,000,000	52.2%	51,325,640,000
Dominion Energy	D	74.52	800,000,000	59,616,000,000	49.6%	1,596,000,000	1.3%	59,086,000,000	49.1%	120,298,000,000
DTE Energy Co	dte	121.41	193,770,000	23,525,615,700	51.5%			22,174,000,000	48.5%	45,699,615,700
Duke Energy Corp	duk	90.62	764,000,000	69,233,680,000	49.6%	973,000,000	0.7%	69,292,000,000	49.7%	139,498,680,000
Entergy Corp	etr	98.85	200,240,000	19,793,724,000	44.1%	254,400,000	0.6%	24,813,818,000	55.3%	44,861,942,000
Eversource Energy	es	85.86	345,000,000	29,621,700,000	60.7%	155,600,000	0.3%	19,023,500,000	39.0%	48,800,800,000
Exelon Corp	exc	41.81	976,000,000	40,806,560,000	48.3%	-		43,752,000,000	51.7%	84,558,560,000
FirstEnergy Corp	fe	30.24	543,000,000	16,420,320,000	38.6%	707,000,000	1.7%	25,465,000,000	59.8%	42,592,320,000
Fortis Inc	fts.to	40.42	466,800,000	18,868,056,000	44.6%	1,623,000,000	3.8%	21,825,000,000	51.6%	42,316,056,000
Hawaiian Electric	he	35.05	110,000,000	3,855,500,000	66.7%	34,300,000	0.6%	1,890,490,000	32.7%	5,780,290,000
Idacorp Inc	ida	95.25	50,700,000	4,829,175,000	66.2%	-		2,466,967,000	33.8%	7,296,142,000
MGE Energy Inc	mgee	69.63	35,160,000	2,448,190,800	79.3%	-		639,271,000	20.7%	3,087,461,800
NorthWestern Corp	nwe	58.31	50,600,000	2,950,486,000	52.9%	-		2,629,755,000	47.1%	5,580,241,000
OGE Energy Corp	oge	31.46	200,100,000	6,295,146,000	60.1%	-		4,182,100,000	39.9%	10,477,246,000
Otter Tail Corp	ottr	42.61	41,470,000	1,767,036,700	67.3%	-		858,455,000	32.7%	2,625,491,700
PNM Resources Inc	pnm	48.20	85,830,000	4,137,006,000	55.1%	11,500,000	0.2%	3,355,761,000	44.7%	7,504,267,000
Portland General Ele	por	42.77	89,550,000	3,830,053,500	50.1%	-		3,808,000,000	49.9%	7,638,053,500
Public Service Enter	peg	58.30	505,000,000	29,441,500,000	60.6%	-		19,143,000,000	39.4%	48,584,500,000
Sempra Energy	sre	127.41	290,000,000	36,948,900,000	57.1%	2,278,000,000	3.5%	25,478,000,000	39.4%	64,704,900,000
WEC Energy Group	wec	91.30	315,430,000	28,798,759,000	66.7%	30,400,000	0.1%	14,343,200,000	33.2%	43,172,359,000
Xcel Energy Inc	xel	66.67	539,000,000	35,935,130,000	59.5%	-		24,412,000,000	40.5%	60,347,130,000
			Mean		**55.4%**		**1.4%**		**43.9%**	
			Harmonic Mean		**53.4%**		**0.3%**		**41.1%**	
			Weighted Mean	**547,809,834,400**	**51.9%**	**10,020,200,000**	**0.9%**	**497,870,571,000**	**47.2%**	**1,055,700,605,400**
			Median		**53.3%**		**0.6%**		**46.7%**	
			Std Dev		**10.6%**		**1.5%**		**10.1%**	
			Coefficient of Variation		**19.1%**		**108.2%**		**23.0%**	
			Target		**55%**				**45%**	**100%**

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
CAPITAL ASSET PRICING MODEL
2021 Assessment Year

Ex Ante

Ke = Rf + B (Rp)

Ke =	**Cost of Equity**		**5.05%**
			to page 1

Rm =	rate of return	5.65%	
Rf =	risk free rate	1.65%	
Rp =	risk premium	4.00%	
B =	Beta	0.85	page 7

Rp =	**Risk Premium**		**4.00%**
			to above

Shannon Pratt and Roger Grabowski	3.50% - 6.00%	
Cost of Capital, App and Exam, 5th Ed, 2014		
Dr. Aswath Damodaran	4.72%	chart page 15
http://pages.stern.nyu.edu/~adamodar/	4.00%	adjusted for Rf
2020 Implied Premium		
John Graham & Campbell Harvey	6.20%	10 year expected real retu
Duke CFO magazine Global Business Outlook	5.48%	adjusted for Rf
4th Qtr 2020	0.93%	Rf rate used in survey

Rf =	**Risk Free Rate**		**1.65%**

Value Line Investment Survey, Selected Yields January 10, 2020, page 1313

as of 12-28-20	US Treasury Securities year end data		
		5 year	0.37%
		10 year	0.94%
		30 year	1.67%
		30 year Zero	NA

Federal Reserve Statistical Release (http://www.federalreserve.gov/Releases/H15/Current/)

as of 12-31-20	Treasury Constant Maturities			
		5 year	0.36%	
		10 year	0.93%	
		20 year	1.45%	
		30 year	1.65%	
		20 year TIPS	-0.61%	2.06%
		30 year TIPS	-0.37%	2.02%
				TIPS inflation indication

Inflation	**2.00%**
	to appraisal template

Value Line Investment Survey, Economic Series January 1, 2021, page 1500

Consumer Price Index Annual Rate of Change 2023-202	2.30%

The Livingston Survey December 18, 2020, page 4, 10

Inflation median (measured by the CPI) over next 10 year	2.23%

Gross Domestic Product (GDP) Nominal	**3.80%**
	real GDP + inflation est

Federal Reserve Projected Long Run Real GDP Growth

Median Projection Value From Dec 16, 2020 Report	1.80%

https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20201216.pdf

Congressional Budget Office Real GDP Economic Projections

		Table 2.3, pg 15
The Budget and Economic Outlook 2021-2031	2021-2025	1.90%
Average Percentage Change Year to Year	2026-2031	1.70%

https://www.cbo.gov/system/files/2021-02/56970-

Federal Reserve Bank of Philadelphia

The Livingston Survey, December 18, 2020, page 4, 10	
Average Annual Real GDP Growth Rate for Next 10 Years	2.20%

https://www.philadelphiafed.org/research-and-data/real-time-center/livingston-survey

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
DIVIDEND GROWTH MODEL

Washington State Department of Revenue

2021 Assessment Year

Electric Industry

Based on Dividend Growth

Ke = (D1 / Po) + G

Ke = Cost of Equity
D1 = Expected Dividends
Po = Current Price
G = Sustainable Growth

Company	Ticker	Stock Price (Po)	Expected Dividend (D1)	Dividend Yield (D1/Po)	Dividend Growth (G)	Ke with Short Term Growth
Alliant Energy Corp	lnt	51.11	1.61	3.15%	5.50%	8.65%
Ameren Corp	aee	78.06	2.20	2.82%	5.00%	7.82%
Avangrid Inc	agr	45.02	1.76	3.91%	3.50%	7.41%
Avista Corp	ava	39.70	1.68	4.23%	3.50%	7.73%
Black Hills	bkh	60.89	2.31	3.79%	6.50%	10.29%
CMS Energy Corp	cms	60.55	1.74	2.87%	7.00%	9.87%
CenterPoint Energy In	cnp	21.48	0.65	3.03%	2.00%	5.03%
Chesapeake Utilities	cpk	108.21	1.83	1.69%	9.00%	10.69%
Consolidated Edison	ed	71.48	3.10	4.34%	3.50%	7.84%
Dominion Energy	D	74.52	2.52	3.38%	4.50%	7.88%
DTE Energy Co	dte	121.41	4.41	3.63%	6.50%	10.13%
Duke Energy Corp	duk	90.62	3.90	4.30%	2.50%	6.80%
Entergy Corp	etr	98.85	3.86	3.90%	4.00%	7.90%
Eversource Energy	es	85.86	2.40	2.80%	6.00%	8.80%
Exelon Corp	exc	41.81	1.61	3.85%	5.50%	9.35%
FirstEnergy Corp	fe	30.24	1.56	5.16%	3.00%	8.16%
Fortis Inc	fts.to	40.42	2.08	5.15%	6.00%	11.15%
Hawaiian Electric	he	35.05	1.32	3.77%	3.00%	6.77%
Idacorp Inc	ida	95.25	2.89	3.03%	7.00%	10.03%
MGE Energy Inc	mgee	69.63	1.52	2.18%	5.50%	7.68%
NorthWestern Corp	nwe	58.31	2.48	4.25%	4.50%	8.75%
OGE Energy Corp	oge	31.46	1.64	5.21%	6.00%	11.21%
Otter Tail Corp	ottr	42.61	1.56	3.66%	5.00%	8.66%
PNM Resources Inc	pnm	48.20	1.33	2.76%	7.00%	9.76%
Portland General Elect	por	42.77	1.68	3.93%	6.50%	10.43%
Public Service Enterpri	peg	58.30	2.04	3.50%	5.00%	8.50%
Sempra Energy	sre	127.41	4.50	3.53%	8.00%	11.53%
WEC Energy Group In	wec	91.30	2.71	2.97%	6.50%	9.47%
Xcel Energy Inc	xel	66.67	1.82	2.73%	6.00%	8.73%
					Mean	**8.86%**
					Harmonic Mean	**8.59%**
					Median	**8.73%**
					Max	**11.53%**
					Min	**5.03%**
					Std Dev	**1.51%**
					Coefficient of Variation	
					Say	**8.75%**

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
DIVIDEND GROWTH MODEL

Washington State Department of Revenue

2021 Assessment Year

Electric Industry

Based on Earnings Growth

Ke = (D1 / Po) + G

Ke	=	Cost of Equity
D1	=	Expected Dividends
Po	=	Current Price
G	=	Sustainable Growth

Company	Ticker	Stock Price (Po)	Expected Dividend (D1)	Dividend Yield (D1/Po)	Earnings Growth (G)	Ke with Short Term Growth
Alliant Energy Corp	lnt	51.11	1.61	3.15%	6.50%	9.65%
Ameren Corp	aee	78.06	2.20	2.82%	6.00%	8.82%
Avangrid Inc	agr	45.02	1.76	3.91%	8.50%	12.41%
Avista Corp	ava	39.70	1.68	4.23%	3.50%	7.73%
Black Hills	bkh	60.89	2.31	3.79%	5.00%	8.79%
CMS Energy Corp	cms	60.55	1.74	2.87%	7.50%	10.37%
CenterPoint Energy	cnp	21.48	0.65	3.03%	6.50%	9.53%
Chesapeake Utilities	cpk	108.21	1.83	1.69%	9.00%	10.69%
Consolidated Edison	ed	71.48	3.10	4.34%	3.00%	7.34%
Dominion Energy	D	74.52	2.52	3.38%	7.00%	10.38%
DTE Energy Co	dte	121.41	4.41	3.63%	5.00%	8.63%
Duke Energy Corp	duk	90.62	3.90	4.30%	6.00%	10.30%
Entergy Corp	etr	98.85	3.86	3.90%	3.00%	6.90%
Eversource Energy	es	85.86	2.40	2.80%	5.50%	8.30%
Exelon Corp	exc	41.81	1.61	3.85%	8.00%	11.85%
FirstEnergy Corp	fe	30.24	1.56	5.16%	7.00%	12.16%
Fortis Inc	fts.to	40.42	2.08	5.15%	2.50%	7.65%
Hawaiian Electric	he	35.05	1.32	3.77%	2.50%	6.27%
Idacorp Inc	ida	95.25	2.89	3.03%	3.50%	6.53%
MGE Energy Inc	mgee	69.63	1.52	2.18%	5.50%	7.68%
NorthWestern Corp	nwe	58.31	2.48	4.25%	2.00%	6.25%
OGE Energy Corp	oge	31.46	1.64	5.21%	4.50%	9.71%
Otter Tail Corp	ottr	42.61	1.56	3.66%	5.00%	8.66%
PNM Resources Inc	pnm	48.20	1.33	2.76%	7.00%	9.76%
Portland General Ele	por	42.77	1.68	3.93%	4.50%	8.43%
Public Service Enter	peg	58.30	2.04	3.50%	6.00%	9.50%
Sempra Energy	sre	127.41	4.50	3.53%	11.00%	14.53%
WEC Energy Group	wec	91.30	2.71	2.97%	6.00%	8.97%
Xcel Energy Inc	xel	66.67	1.82	2.73%	5.50%	8.23%
					Mean	**9.17%**
					Harmonic Mean	**8.81%**
					Median	**8.82%**
					Max	**14.53%**
					Min	**6.25%**
					Std Dev	**1.94%**
					Coefficient of Variation	**21.11%**
					Say	**9.00%**

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
DIVIDEND GROWTH MODEL

Washington State Department of Revenue

2021 Assessment Year

Electric Industry

Based on Return on Equity   Ke = (D1 / Po) + G

Ke = Cost of Equity
D1 = Expected Dividends
E1 = Expected Earnings
Po = Current Price
G = Sustainable Growth
b = Retained Earnings % = (1 - Payout Ratio)
ROE = Return on Equity = (E1 / Po)

Company	Ticker	Stock Price (Po)	Expected Dividend (D1)	Expected Earnings (E1)	Dividend Yield (D1/Po)	Retained Earnings (b)	ROE (E1/Po)	Growth (b*ROE)	K_e Dividends	K_e Earnings
Alliant Energy Corp	lnt	51.11	1.61	2.60	3.15%	38.0%	5.09%	1.93%	5.08%	7.02%
Ameren Corp	aee	78.06	2.20	3.70	2.82%	43.0%	4.74%	2.04%	4.86%	6.78%
Avangrid Inc	agr	45.02	1.76	2.15	3.91%	2.0%	4.78%	0.10%	4.00%	4.87%
Avista Corp	ava	39.70	1.68	2.10	4.23%	12.0%	5.29%	0.63%	4.87%	5.92%
Black Hills	bkh	60.89	2.31	3.80	3.79%	41.0%	6.24%	2.56%	6.35%	8.80%
CMS Energy Corp	cms	60.55	1.74	2.85	2.87%	38.0%	4.71%	1.79%	4.66%	6.50%
CenterPoint Energy I	cnp	21.48	0.65	1.40	3.03%	34.0%	6.52%	2.22%	5.24%	8.73%
Chesapeake Utilities	cpk	108.21	1.83	4.25	1.69%	56.0%	3.93%	2.20%	3.89%	6.13%
Consolidated Edison	ed	71.48	3.10	4.25	4.34%	24.0%	5.95%	1.43%	5.76%	7.37%
Dominion Energy	D	74.52	2.52	3.85	3.38%	NMF	5.17%	NMF	NMF	NMF
DTE Energy Co	dte	121.41	4.41	7.15	3.63%	44.0%	5.89%	2.59%	6.22%	8.48%
Duke Energy Corp	duk	90.62	3.90	5.15	4.30%	23.0%	5.68%	1.31%	5.61%	6.99%
Entergy Corp	etr	98.85	3.86	5.95	3.90%	45.0%	6.02%	2.71%	6.61%	8.73%
Eversource Energy	es	85.86	2.40	3.85	2.80%	37.0%	4.48%	1.66%	4.45%	6.14%
Exelon Corp	exc	41.81	1.61	3.00	3.85%	50.0%	7.18%	3.59%	7.44%	10.76%
FirstEnergy Corp	fe	30.24	1.56	2.75	5.16%	11.0%	9.09%	1.00%	6.16%	10.09%
Fortis Inc	fts.to	40.42	2.08	2.80	5.15%	33.0%	6.93%	2.29%	7.43%	9.21%
Hawaiian Electric	he	35.05	1.32	1.85	3.77%	27.0%	5.28%	1.43%	5.19%	6.70%
Idacorp Inc	ida	95.25	2.89	4.80	3.03%	42.0%	5.04%	2.12%	5.15%	7.16%
MGE Energy Inc	mgee	69.63	1.52	2.70	2.18%	44.0%	3.88%	1.71%	3.89%	5.58%
NorthWestern Corp	nwe	58.31	2.48	3.50	4.25%	25.0%	6.00%	1.50%	5.75%	7.50%
OGE Energy Corp	oge	31.46	1.64	2.10	5.21%	24.0%	6.68%	1.60%	6.82%	8.28%
Otter Tail Corp	ottr	42.61	1.56	2.45	3.66%	37.0%	5.75%	2.13%	5.79%	7.88%
PNM Resources Inc	pnm	48.20	1.33	2.25	2.76%	41.0%	4.67%	1.91%	4.67%	6.58%
Portland General Ele	por	42.77	1.68	2.65	3.93%	NMF	6.20%	NMF	NMF	NMF
Public Service Enterp	peg	58.30	2.04	3.40	3.50%	43.0%	5.83%	2.51%	6.01%	8.34%
Sempra Energy	sre	127.41	4.50	7.90	3.53%	35.0%	6.20%	2.17%	5.70%	8.37%
WEC Energy Group I	wec	91.30	2.71	4.00	2.97%	33.0%	4.38%	1.45%	4.41%	5.83%
Xcel Energy Inc	xel	66.67	1.82	2.95	2.73%	38.0%	4.42%	1.68%	4.41%	6.11%
								Mean	**5.42%**	**7.44%**
								Harmonic Mean	**5.25%**	**7.18%**
								Median	**5.24%**	**7.16%**
								Std Dev	**1.00%**	**1.43%**
								Coefficient of Variation	**18.45%**	**19.24%**

say **6.50%**

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
FREE CASH FLOW TO EQUITY MODEL MULTI STAGE

Washington State Department of Revenue

2021 Assessment Year

Electric Industry

Company	Ticker	Stock Price	Expected Earnings	P/E	Payout Ratio	ROE	Ke
Alliant Energy Corp	lnt	51.11	2.60	19.66	62.00%	10.50%	6.53%
Ameren Corp	aee	78.06	3.70	21.10	57.00%	10.00%	5.90%
Avangrid Inc	agr	45.02	2.15	20.94	82.00%	4.50%	5.96%
Avista Corp	ava	39.70	2.10	18.90	78.00%	7.00%	6.66%
Black Hills	bkh	60.89	3.80	16.02	59.00%	9.00%	8.32%
CMS Energy Corp	cms	60.55	2.85	21.25	61.00%	13.50%	6.00%
CenterPoint Energy	cnp	21.48	1.40	15.34	54.00%	11.00%	9.80%
Chesapeake Utilities	cpk	108.21	4.25	25.46	46.00%	9.50%	4.19%
Consolidated Edison	ed	71.48	4.25	16.82	70.00%	7.50%	8.01%
Dominion Energy	D	74.52	3.85	19.36	67.00%	11.50%	6.62%
DTE Energy Co	dte	121.41	7.15	16.98	62.00%	10.50%	8.48%
Duke Energy Corp	duk	90.62	5.15	17.60	76.00%	8.00%	7.65%
Entergy Corp	etr	98.85	5.95	16.61	65.00%	10.50%	8.58%
Eversource Energy	es	85.86	3.85	22.30	62.00%	8.50%	5.35%
Exelon Corp	exc	41.81	3.00	13.94	52.00%	8.50%	10.35%
FirstEnergy Corp	fe	30.24	2.75	11.00	57.00%	19.00%	13.75%
Fortis Inc	fts.to	40.42	2.80	14.44	49.00%	7.00%	9.87%
Hawaiian Electric	he	35.05	1.85	18.95	71.00%	8.50%	5.96%
Idacorp Inc	ida	95.25	4.80	19.84	60.00%	9.00%	6.12%
MGE Energy Inc	mgee	69.63	2.70	25.79	56.00%	9.50%	3.11%
NorthWestern Corp	nwe	58.31	3.50	16.66	70.00%	8.50%	7.95%
OGE Energy Corp	oge	31.46	2.10	14.98	77.00%	11.50%	10.04%
Otter Tail Corp	ottr	42.61	2.45	17.39	63.00%	11.50%	8.35%
PNM Resources Inc	pnm	48.20	2.25	21.42	59.00%	9.00%	6.00%
Portland General Ele	por	42.77	2.65	16.14	63.00%	9.00%	8.30%
Public Service Enter	peg	58.30	3.40	17.15	56.00%	11.00%	8.50%
Sempra Energy	sre	127.41	7.90	16.13	58.00%	9.50%	8.96%
WEC Energy Group	wec	91.30	4.00	22.83	67.00%	11.50%	5.17%
Xcel Energy Inc	xel	66.67	2.95	22.60	61.00%	10.50%	4.52%
Mean				**18.54**	**62.76%**	**9.83%**	**7.41%**
Harmonic Mean				**17.90**	**61.64%**	**9.25%**	**6.75%**
Median				**17.60**	**62.00%**	**9.50%**	**7.65%**
Industry Summary				**18.00**	**62.00%**	**9.50%**	
						Say	**7.50%**

SUPPORT FOR DEBT RATING AND DEBT YIELD RATE

Washington State Department of Revenue

2021 Assessment Year

Electric Industry

Company	Ticker	Mergent's Ratings	S&P Ratings
Alliant Energy Corp	lnt	Baa2	A-
Ameren Corp	aee	Baa1	BBB+
Avangrid Inc	agr	Baa1	BBB+
Avista Corp	ava	Baa2	BBB
Black Hills	bkh	Baa2	BBB+
CMS Energy Corp	cms	Baa2	BBB+
CenterPoint Energy Inc	cnp	Baa2	BBB+
Chesapeake Utilities	cpk		
Consolidated Edison	ed	Baa1	A-
Dominion Energy	D	Baa2	BBB+
DTE Energy Co	dte	Baa2	BBB+
Duke Energy Corp	duk	Baa1	BBB+
Entergy Corp	etr	Baa2	BBB+
Eversource Energy	es	Baa1	A-
Exelon Corp	exc	Baa2	BBB+
FirstEnergy Corp	fe	Baa1	BB
Fortis Inc	fts.to	Baa1	A-
Hawaiian Electric	he		BBB-
Idacorp Inc	ida	A1	BBB
MGE Energy Inc	mgee	A1	AA-
NorthWestern Corp	nwe	Baa2	BBB
OGE Energy Corp	oge	A3	BBB+
Otter Tail Corp	ottr	A3	BBB
PNM Resources Inc	pnm	Baa3	BBB
Portland General Electric	por	A1	BBB+
Public Service Enterprise Gro	peg	Baa1	BBB+
Sempra Energy	sre	Baa2	BBB+
WEC Energy Group Inc	wec	Baa1	A-
Xcel Energy Inc	xel	Baa1	A-

Overall Average Debt Rating		**Baa1**	**BBB+**

Mergent's Bond Record January 2021, page 251				
Corporate	**Aaa**	**Aa**	**A**	**Baa**
October	2.35%	2.55%	2.88%	3.44%
November	2.30%	2.47%	2.79%	3.30%
December	2.26%	2.44%	2.72%	3.16%
4th Qtr Average	**2.30%**	**2.49%**	**2.80%**	**3.30%**
Public Utilities	**Aaa**	**Aa**	**A**	**Baa**
October		2.72%	2.95%	3.27%
November		2.63%	2.85%	3.17%
December		2.57%	2.77%	3.05%
4th Qtr Average		**2.64%**	**2.86%**	**3.16%**
Industrials	**Aaa**	**Aa**	**A**	**Baa**
October	2.35%	2.37%	2.81%	3.60%
November	2.30%	2.30%	2.72%	3.41%
December	2.26%	2.31%	2.66%	3.27%
4th Qtr Average	**2.30%**	**2.33%**	**2.73%**	**3.43%**

		Avg YTM	Med YTM
Moody's LT Bond Yield	**Baa1**	2.83%	2.85%
S&P's LT Bond Yield	**BBB+**	2.95%	2.91%

Bloomberg Dec 2020		20Y	25Y	30Y
	BBB+	3.02%	3.02%	3.12%

Debt Yield Rate	**3.00%**

to page 1

SUPPORT FOR DIRECT CAPITALIZATION EQUITY COMPONENT

2021 Assessment Year

Electric Industry

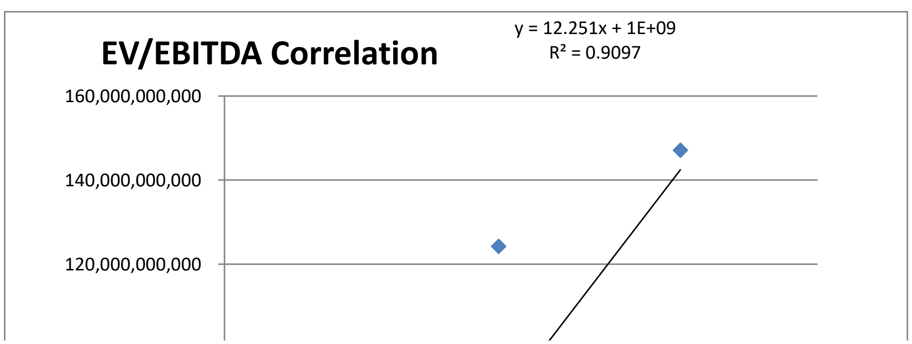
			2020		2021		2020		2021	
Company	**Ticker**	**Stock Price**	**Actual Earnings Ratio (EPS/P)**		**Projected Earnings Ratio (PEPS/P)**		**Cash Flow Ratio (CF/P)**		**Projected Cash Flow Ratio**	
Alliant Energy Corp	lnt	51.11	2.47	4.8%	2.60	5.1%	4.92	9.6%	5.10	10.0%
Ameren Corp	aee	78.06	3.50	4.5%	3.70	4.7%	8.08	10.4%	8.55	11.0%
Avangrid Inc	agr	45.02	1.90	4.2%	2.15	4.8%	5.25	11.7%	5.65	12.5%
Avista Corp	ava	39.70	1.85	4.7%	2.10	5.3%	5.10	12.8%	5.40	13.6%
Black Hills	bkh	60.89	3.65	6.0%	3.80	6.2%	7.30	12.0%	7.60	12.5%
CMS Energy Corp	cms	60.55	2.64	4.4%	2.85	4.7%	6.24	10.3%	6.60	10.9%
CenterPoint Energy Inc	cnp	21.48	1.29	6.0%	1.40	6.5%	3.46	16.1%	3.50	16.3%
Chesapeake Utilities	cpk	108.21	4.05	3.7%	4.25	3.9%	7.60	7.0%	8.35	7.7%
Consolidated Edison	ed	71.48	3.90	5.5%	4.25	5.9%	9.50	13.3%	10.05	14.1%
Dominion Energy	D	74.52	3.20	4.3%	3.85	5.2%	7.00	9.4%	7.00	9.4%
DTE Energy Co	dte	121.41	7.08	5.8%	7.15	5.9%	14.70	12.1%	15.25	12.6%
Duke Energy Corp	duk	90.62	5.07	5.6%	5.15	5.7%	12.13	13.4%	12.70	14.0%
Entergy Corp	etr	98.85	6.90	7.0%	5.95	6.0%	18.21	18.4%	17.95	18.2%
Eversource Energy	es	85.86	3.60	4.2%	3.85	4.5%	6.85	8.0%	7.50	8.7%
Exelon Corp	exc	41.81	3.00	7.2%	3.00	7.2%	9.10	21.8%	9.45	22.6%
FirstEnergy Corp	fe	30.24	1.75	5.8%	2.75	9.1%	3.75	12.4%	5.00	16.5%
Fortis Inc	fts.to	40.42	2.60	6.4%	2.80	6.9%	5.65	14.0%	6.00	14.8%
Hawaiian Electric	he	35.05	1.80	5.1%	1.85	5.3%	4.45	12.7%	4.60	13.1%
Idacorp Inc	ida	95.25	4.65	4.9%	4.80	5.0%	8.20	8.6%	8.40	8.8%
MGE Energy Inc	mgee	69.63	2.60	3.7%	2.70	3.9%	4.57	6.6%	4.85	7.0%
NorthWestern Corp	nwe	58.31	3.15	5.4%	3.50	6.0%	6.80	11.7%	7.25	12.4%
OGE Energy Corp	oge	31.46	2.08	6.6%	2.10	6.7%	4.03	12.8%	4.25	13.5%
Otter Tail Corp	ottr	42.61	2.34	5.5%	2.45	5.7%	4.29	10.1%	4.55	10.7%
PNM Resources Inc	pnm	48.20	2.20	4.6%	2.25	4.7%	5.65	11.7%	6.10	12.7%
Portland General Electric	por	42.77	1.55	3.6%	2.65	6.2%	6.25	14.6%	7.50	17.5%
Public Service Enterprise	peg	58.30	3.40	5.8%	3.40	5.8%	6.35	10.9%	6.35	10.9%
Sempra Energy	sre	127.41	6.80	5.3%	7.90	6.2%	12.55	9.9%	13.25	10.4%
WEC Energy Group Inc	wec	91.30	3.79	4.2%	4.00	4.4%	6.90	7.6%	7.40	8.1%
Xcel Energy Inc	xel	66.67	2.80	4.2%	2.95	4.4%	6.60	9.9%	7.00	10.5%
		Mean		**5.1%**		**5.6%**		**11.7%**		**12.4%**
		Harmonic Mean		**5.0%**		**5.4%**		**10.9%**		**11.6%**
		Median		**5.1%**		**5.7%**		**11.7%**		**12.5%**
		Max		**7.2%**		**9.1%**		**21.8%**		**22.6%**
		Min		**3.6%**		**3.9%**		**6.6%**		**7.0%**
		Std Dev		**1.0%**		**1.1%**		**3.3%**		**3.5%**
		Coefficient of Variation		**19.1%**		**19.8%**		**28.0%**		**27.9%**
		Say		**5.0%**		**5.5%**		**11.5%**		**12.0%**

Source: Value Line / yr end stock price

SUPPORT FOR DIRECT CAPITALIZATION EQUITY COMPONENT

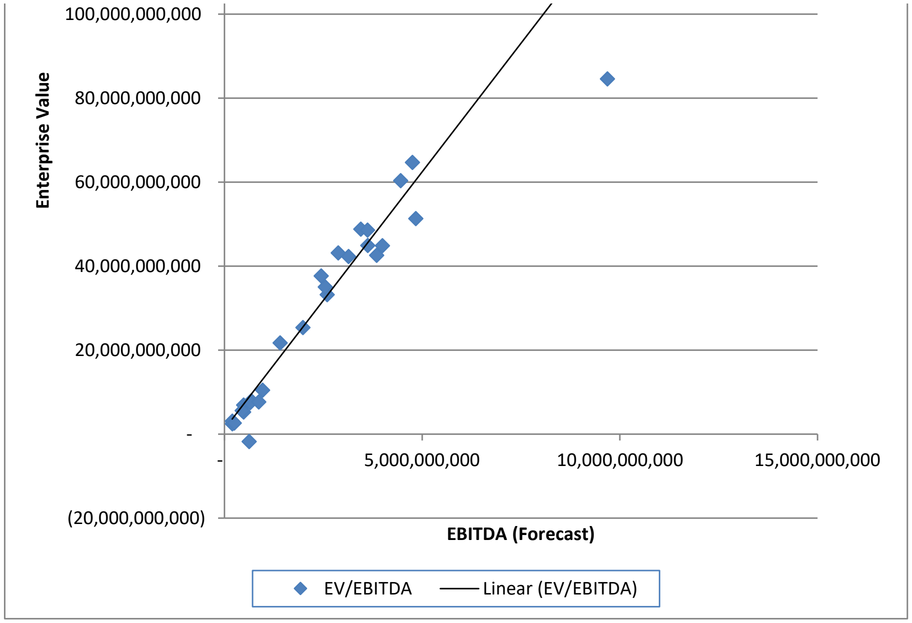
2021 Assessment Year

Company	Ticker	Stock Price	Enterprise Value	EBITDA Historical	Annual Change VL	EBITDA Forecast	EV / EBITDA Forecast	Revenue Forecast	EV / Sales Forecast	CF Forecast	Debt Svc	EV/CF Forecast
Alliant Energy Corp	lnt	51.11	21,689,855,700	1,355,000,000	3.66%	1,404,573,171	15.44	3,573,141,000	6.07	1,274,337,000	243,270,000	14.29
Ameren Corp	aee	78.06	33,229,598,000	2,453,000,000	5.82%	2,595,686,881	12.80	5,965,215,000	5.57	2,165,715,000	399,450,000	12.95
Avangrid Inc	agr	45.02	25,369,180,000	1,843,000,000	7.62%	1,983,419,048	12.79	6,504,450,000	3.90	1,745,850,000	364,980,000	12.02
Avista Corp	ava	39.70	5,266,887,000	456,923,000	5.88%	483,800,824	10.89	1,331,700,000	3.96	372,600,000	75,827,610	11.75
Black Hills	bkh	60.89	7,951,684,200	652,760,000	4.11%	679,585,753	11.70	1,669,182,000	4.76	467,248,000	126,245,010	13.40
CMS Energy Corp	cms	60.55	35,044,317,000	2,410,000,000	5.77%	2,549,038,462	13.75	6,804,537,000	5.15	1,907,004,000	525,360,000	14.41
CenterPoint Energy	cnp	21.48	37,659,212,800	2,415,000,000	1.16%	2,442,919,075	15.42	7,222,816,000	5.21	1,929,760,000	721,140,000	14.21
Chesapeake Utilitie	cpk	108.21	2,442,175,000	180,309,000	9.87%	198,102,651	12.33	583,625,000	4.18	146,125,000	16,455,000	15.02
Consolidated Ediso	ed	71.48	51,325,640,000	4,574,000,000	5.79%	4,838,810,526	10.61	12,279,400,000	4.18	3,447,150,000	804,240,000	12.07
Dominion Energy	D	74.52	124,255,000,000	6,935,000,000	0.00%	6,935,000,000	17.92	14,200,000,000	8.75	5,600,000,000	1,772,580,000	16.85
DTE Energy Co	dte	121.41	44,892,615,700	3,489,000,000	3.74%	3,619,540,816	12.40	12,488,476,500	3.59	2,954,992,500	665,220,000	12.40
Duke Energy Corp	duk	90.62	147,121,680,000	11,013,000,000	4.70%	11,530,511,129	12.76	24,753,600,000	5.94	9,702,800,000	2,078,760,000	12.49
Entergy Corp	etr	98.85	44,861,942,000	4,053,568,000	-1.43%	3,995,691,686	11.23	10,162,180,000	4.41	3,594,308,000	744,414,540	10.34
Eversource Energy	es	85.86	48,800,800,000	3,147,793,000	9.49%	3,446,488,686	14.16	9,246,000,000	5.28	2,587,500,000	570,705,000	15.45
Exelon Corp	exc	41.81	84,558,560,000	9,326,000,000	3.85%	9,684,692,308	8.73	33,916,000,000	2.49	9,223,200,000	1,312,560,000	8.03
FirstEnergy Corp	fe	30.24	42,592,320,000	2,884,000,000	33.33%	3,845,333,333	11.08	11,430,150,000	3.73	2,715,000,000	763,950,000	12.24
Fortis Inc	fts.to	40.42	42,316,056,000	2,952,000,000	6.19%	3,134,867,257	13.50	9,195,960,000	4.60	2,800,800,000	654,750,000	12.25
Hawaiian Electric	he	35.05	(1,755,966,000)	602,271,000	3.37%	622,572,270	NMF	2,673,000,000	NMF	506,000,000	56,714,700	NMF
Idacorp Inc	ida	95.25	6,941,312,000	473,597,000	2.44%	485,148,146	14.31	1,381,575,000	5.02	425,880,000	74,009,010	13.89
MGE Energy Inc	mgee	69.63	3,068,868,800	184,185,000	6.13%	195,469,858	15.70	544,980,000	5.63	170,526,000	19,178,130	16.18
NorthWestern Corp	nwe	58.31	5,580,241,000	415,848,000	6.62%	443,367,353	12.59	1,242,230,000	4.49	366,850,000	78,892,650	12.52
OGE Energy Corp	oge	31.46	10,477,246,000	913,500,000	5.46%	963,368,486	10.88	2,451,225,000	4.27	850,425,000	125,463,000	10.74
Otter Tail Corp	ottr	42.61	2,625,491,700	229,923,000	6.06%	243,857,727	10.77	937,222,000	2.80	188,688,500	25,753,650	12.24
PNM Resources Inc	pnm	48.20	7,504,267,000	601,047,000	7.96%	648,918,000	11.56	1,549,231,500	4.84	523,563,000	100,672,830	12.02
Portland General E	por	42.77	7,638,053,500	723,000,000	20.00%	867,600,000	8.80	2,198,452,500	3.47	671,625,000	114,240,000	9.72
Public Service Ente	peg	58.30	48,584,500,000	3,616,000,000	0.00%	3,616,000,000	13.44	9,999,000,000	4.86	3,206,750,000	574,290,000	12.85
Sempra Energy	sre	127.41	64,704,900,000	4,499,000,000	5.58%	4,749,940,239	13.62	10,817,000,000	5.98	3,842,500,000	764,340,000	14.05
WEC Energy Group	wec	91.30	43,172,359,000	2,682,000,000	7.25%	2,876,347,826	15.01	7,507,234,000	5.75	2,334,182,000	430,296,000	15.62
Xcel Energy Inc	xel	66.67	60,347,130,000	4,198,000,000	6.06%	4,452,424,242	13.55	11,938,850,000	5.05	3,773,000,000	732,360,000	13.39
29	**Mean**						**12.78**		**4.78**			**12.98**
	Harmonic Mean						**12.44**		**4.50**			**12.66**
	Median						**12.77**		**4.80**			**12.68**
	Std Dev						**2.09**		**1.21**			**1.96**
	Say						**12.50**		**4.75**			**12.75**



Forecast EV/EBITDA By Rank

Guideline Companies	EV/EBITDA forecast
Exelon Corp	8.73
Portland General Electric	8.80
Consolidated Edison	10.61
Otter Tail Corp	10.77
OGE Energy Corp	10.88
Avista Corp	10.89
FirstEnergy Corp	11.08
Entergy Corp	11.23
PNM Resources Inc	11.56



Black Hills	11.70
Chesapeake Utilities	12.33
DTE Energy Co	12.40
NorthWestern Corp	12.59
Duke Energy Corp	12.76
Avangrid Inc	12.79
Ameren Corp	12.80
Public Service Enterprise Group	13.44
Fortis Inc	13.50
Xcel Energy Inc	13.55
Sempra Energy	13.62
CMS Energy Corp	13.75
Eversource Energy	14.16
Idacorp Inc	14.31
WEC Energy Group Inc	15.01
CenterPoint Energy Inc	15.42
Alliant Energy Corp	15.44
MGE Energy Inc	15.70
Dominion Energy	17.92

11.17	**Low Average**
11.15	**Low Median**
11.00	**Say**
14.39	**High Average**
13.95	**High Median**
14.00	**Say**

STOCK PRICE

Washington State Department of Revenue

2021 Assessment Year

Electric Industry

								65.57
								2020 Year End
Alliant Energy Corp	lnt							
Date	Open	High	Low	Close	Adj Close		Volume	
12/31/2020	50.49	51.61	50.42	51.53		51.11	916,200	**51.11**
Ameren Corp	aee							
Date	Open	High	Low	Close	Adj Close		Volume	
12/31/2020	77.26	78.11	76.73	78.06		78.06	1,238,700	**78.06**
Avangrid	agr							
Date	Open	High	Low	Close	Adj Close		Volume	
12/31/2020	45.24	45.53	44.94	45.45		45.02	368,500	**45.02**
Avista	ava							
Date	Open	High	Low	Close	Adj Close		Volume	
12/31/2020	39.62	40.39	39.62	40.14		39.7	401,400	**39.70**
Black Hills	bkh							
Date	Open	High	Low	Close	Adj Close		Volume	
12/31/2020	60.48	61.63	60.26	61.45		60.89	345,300	**60.89**
CMS Energy Corp	cms							
Date	Open	High	Low	Close	Adj Close		Volume	
12/31/2020	59.94	61.09	59.66	61.01		60.55	1,872,300	**60.55**
CenterPoint Energy	cnp							
Date	Open	High	Low	Close	Adj Close		Volume	
12/31/2020	21.4	21.69	21.25	21.64		21.48	1,938,100	**21.48**
Chesapeake Util	cpk							
Date	Open	High	Low	Close	Adj Close		Volume	
12/31/2020	106.4	108.64	106.4	108.21		108.21	73,700	**108.21**
Consolidated Edison	ed							
Date	Open	High	Low	Close	Adj Close		Volume	
12/31/2020	70.88	72.32	70.76	72.27		71.48	2,081,400	**71.48**
Dominion Energy	D							
Date	Open	High	Low	Close	Adj Close		Volume	
12/31/2020	73.99	75.28	73.86	75.2		74.52	2,392,500	**74.52**
DTE Energy	dte							
Date	Open	High	Low	Close	Adj Close		Volume	
12/31/2020	119.73	121.53	119.22	121.41		121.41	553,400	**121.41**
Duke Energy	duk							

Date		Open	High	Low	Close	Adj Close	Volume	
	12/31/2020	90.61	91.64	90.27	91.56	90.62	1,638,800	**90.62**

Entergy Corp		etr						
Date		Open	High	Low	Close	Adj Close	Volume	
	12/31/2020	98.35	99.97	97.67	99.84	98.85	992,300	**98.85**

Eversource Energy		es						
Date		Open	High	Low	Close	Adj Close	Volume	
	12/31/2020	85.48	86.61	84.99	86.51	85.86	1,117,000	**85.86**

Exelon		exc						
Date		Open	High	Low	Close	Adj Close	Volume	
	12/31/2020	41.95	42.28	41.71	42.22	41.81	3,248,400	**41.81**

FirstEnergy Corp		fe						
Date		Open	High	Low	Close	Adj Close	Volume	
	12/31/2020	29.97	30.64	29.87	30.61	30.24	2,740,000	**30.24**

Fortis		fts						
Date		Open	High	Low	Close	Adj Close	Volume	
	12/31/2020	41.11	41.15	40.77	40.82	40.42	305,200	**40.42**

Hawaiian		he						
Date		Open	High	Low	Close	Adj Close	Volume	
	12/31/2020	34.83	35.51	34.83	35.39	35.05	271,900	**35.05**

Idacorp		ida						
Date		Open	High	Low	Close	Adj Close	Volume	
	12/31/2020	95.13	96.21	94.57	96.03	95.25	256,800	**95.25**

MGE Energy		mgee						
Date		Open	High	Low	Close	Adj Close	Volume	
	12/31/2020	69.44	70.18	69.2	70.03	69.63	62,600	**69.63**

NorthWestern Corp		nwe						
Date		Open	High	Low	Close	Adj Close	Volume	
	12/31/2020	57.25	58.57	57.04	58.31	58.31	206,600	**58.31**

OGE Energy Corp		oge						
Date		Open	High	Low	Close	Adj Close	Volume	
	12/31/2020	31.49	31.93	31.4	31.86	31.46	787,700	**31.46**

Ottertail		**ottr**						
Date		Open	High	Low	Close	Adj Close	Volume	
	12/31/2020	42.61	42.61	42.61	42.61	42.61	81,700	**42.61**

PNM Resources Inc		pnm						
Date		Open	High	Low	Close	Adj Close	Volume	
	12/31/2020	48.59	48.62	48.51	48.53	48.2	490,900	**48.20**

Portland General		por						
Date		Open	High	Low	Close	Adj Close	Volume	
	12/31/2020	42.04	42.9	41.99	42.77	42.77	446,600	**42.77**

P.S. Enterprise peg

Date	Open	High	Low	Close	Adj Close	Volume	
12/31/2020	57.28	58.34	57.19	58.3	58.3	1,860,400	**58.30**

Sempra sre

Date	Open	High	Low	Close	Adj Close	Volume	
12/31/2020	125.91	127.57	125.01	127.41	127.41	948,100	**127.41**

WEC Energy wec

Date	Open	High	Low	Close	Adj Close	Volume	
12/31/2020	90.5	92.08	90.19	92.03	91.3	1,177,100	**91.30**

Xcel energy xel

Date	Open	High	Low	Close	Adj Close	Volume	
12/31/2020	65.75	66.82	65.39	66.67	66.67	1,743,300	**66.67**

Source:
finance.yahoo.com
Historical Stock Quotes

IMPLIED PREMIUMS FOR US MARKET

Updated January 2021

These implied premiums are calculated using the S&P 500.

Year	arnings Yiel	ividend Yiel	S&P 500	Earnings*	Dividends*	ends + Buyb	nge in Earni	nge in Divid	T.Bill Rate	T.Bond Rate	Bond-Bill	oothed Grow	d Premium (	t Growth Es	ed Premium (
1960	5.34%	3.41%	58.11	3.10	1.98				2.66%	2.76%	0.10%	2.45%			
1961	4.71%	2.85%	71.55	3.37	2.04		8.60%	2.91%	2.13%	2.35%	0.22%	2.41%	2.92%		2.92%
1962	5.81%	3.40%	63.1	3.67	2.15		8.79%	5.21%	2.73%	3.85%	1.12%	4.05%	3.56%		3.56%
1963	5.51%	3.13%	75.02	4.13	2.35		12.75%	9.45%	3.12%	4.14%	1.02%	4.96%	3.38%		3.38%
1964	5.62%	3.05%	84.75	4.76	2.58		15.23%	10.08%	3.54%	4.21%	0.67%	5.13%	3.31%		3.31%
1965	5.73%	3.06%	92.43	5.30	2.83		11.20%	9.42%	3.93%	4.65%	0.72%	5.46%	3.32%		3.32%
1966	6.74%	3.59%	80.33	5.41	2.88		2.23%	1.96%	4.76%	4.64%	-0.12%	4.19%	3.68%		3.68%
1967	5.66%	3.09%	96.47	5.46	2.98		0.85%	3.37%	4.21%	5.70%	1.49%	5.25%	3.20%		3.20%
1968	5.51%	2.93%	103.86	5.72	3.04		4.81%	2.09%	5.21%	6.16%	0.95%	5.32%	3.00%		3.00%
1969	6.63%	3.52%	92.06	6.10	3.24		6.66%	6.49%	6.58%	7.88%	1.30%	7.55%	3.74%		3.74%
1970	5.98%	3.46%	92.15	5.51	3.19		-9.72%	-1.61%	6.53%	6.50%	-0.03%	4.78%	3.41%		3.41%
1971	5.46%	3.10%	102.09	5.57	3.16		1.15%	-0.74%	4.39%	5.89%	1.50%	4.57%	3.09%		3.09%
1972	5.23%	2.70%	118.05	6.17	3.19		10.76%	0.71%	3.84%	6.41%	2.57%	5.21%	2.72%		2.72%
1973	8.16%	3.70%	97.55	7.96	3.61		28.93%	13.24%	6.93%	6.90%	-0.03%	8.30%	4.30%		4.30%
1974	13.64%	5.43%	68.56	9.35	3.72		17.48%	3.14%	8.00%	7.40%	-0.60%	6.42%	5.59%		5.59%
1975	8.55%	4.14%	90.19	7.71	3.73		-17.54%	0.30%	5.80%	7.76%	1.96%	5.99%	4.13%		4.13%
1976	9.07%	3.93%	107.46	9.75	4.22		26.39%	13.10%	5.08%	6.81%	1.73%	8.19%	4.55%		4.55%
1977	11.43%	5.11%	95.1	10.87	4.86		11.53%	15.07%	5.12%	7.78%	2.66%	9.52%	5.92%		5.92%
1978	12.11%	5.39%	96.11	11.64	5.18		7.07%	6.60%	7.18%	9.15%	1.97%	8.48%	5.72%		5.72%
1979	13.48%	5.53%	107.94	14.55	5.97		25.01%	15.23%	10.38%	10.33%	-0.05%	11.70%	6.45%		6.45%
1980	11.04%	4.74%	135.76	14.99	6.44		3.01%	7.81%	11.24%	12.43%	1.19%	11.01%	5.03%		5.03%
1981	12.39%	5.57%	122.55	15.18	6.83		1.31%	6.08%	14.71%	13.98%	-0.73%	11.42%	5.73%		5.73%
1982	9.83%	4.93%	140.64	13.82	6.93		-8.95%	1.58%	10.54%	10.47%	-0.07%	7.96%	4.90%		4.90%
1983	8.06%	4.32%	164.93	13.29	7.12		-3.84%	2.76%	8.80%	11.80%	3.00%	9.09%	4.31%		4.31%
1984	10.07%	4.68%	167.24	16.84	7.83		26.69%	9.85%	9.85%	11.51%	1.66%	11.02%	5.11%		5.11%
1985	7.42%	3.88%	211.28	15.68	8.20		-6.91%	4.74%	7.72%	8.99%	1.27%	7.89%	4.03%	6.75%	3.84%
1986	5.96%	3.38%	242.17	14.43	8.19		-7.93%	-0.15%	6.16%	7.22%	1.06%	5.54%	3.36%	6.96%	3.58%
1987	6.49%	3.71%	247.08	16.04	9.17		11.10%	11.99%	5.47%	8.86%	3.39%	9.66%	4.18%	8.58%	3.99%
1988	8.20%	3.68%	277.72	24.12	10.22		50.42%	11.49%	6.35%	9.14%	2.79%	9.76%	4.12%	7.67%	3.77%
1989	6.80%	3.32%	353.4	24.32	11.73		0.83%	14.80%	8.37%	7.93%	-0.44%	9.58%	3.85%	7.46%	3.51%
1990	6.58%	3.74%	330.22	22.65	12.35		-6.87%	5.26%	7.81%	8.07%	0.26%	7.39%	3.92%	7.19%	3.89%
1991	4.58%	3.11%	417.09	19.30	12.97		-14.79%	5.03%	7.00%	6.70%	-0.30%	6.34%	3.27%	7.81%	3.48%
1992	4.16%	2.90%	435.71	20.87	12.64		8.13%	-2.59%	5.30%	6.68%	1.38%	4.67%	2.83%	9.83%	3.55%
1993	4.25%	2.72%	466.45	26.90	12.69		28.89%	0.41%	3.50%	5.79%	2.29%	4.73%	2.74%	8.00%	3.17%
1994	5.89%	2.91%	459.27	31.75	13.36		18.03%	5.34%	5.00%	7.82%	2.82%	7.23%	3.06%	7.17%	3.55%
1995	5.74%	2.30%	615.93	37.70	14.17		18.74%	6.00%	3.50%	5.57%	2.07%	5.65%	2.44%	6.50%	3.29%
1996	4.83%	2.01%	740.74	40.63	14.89		7.77%	5.10%	5.00%	6.41%	1.41%	6.13%	2.11%	7.92%	3.20%
1997	4.08%	1.60%	970.43	44.09	15.52		8.52%	4.25%	5.35%	5.74%	0.39%	5.45%	1.67%	8.00%	2.73%
1998	3.11%	1.32%	1229.23	44.27	16.20		0.41%	4.37%	4.33%	4.65%	0.32%	4.60%	1.38%	7.20%	2.26%
1999	3.07%	1.14%	1469.25	51.68	16.71		16.74%	3.16%	5.37%	6.44%	1.07%	5.75%	1.20%	12.50%	2.05%
2000	3.94%	1.23%	1320.28	56.13	16.27		8.61%	-2.65%	5.73%	5.11%	-0.62%	3.71%	1.65%	12.00%	2.87%
2001	3.85%	1.37%	1148.09	38.85	15.74	30.08	-30.79%	-3.24%	1.80%	5.05%	3.25%	3.56%	1.73%	10.30%	3.62%
2002	5.23%	1.83%	879.82	46.04	16.08	29.83	18.51%	2.15%	1.20%	3.81%	2.61%	3.57%	2.29%	8.00%	4.10%
2003	4.87%	1.61%	1111.91	54.69	17.88	31.58	18.79%	11.19%	1.00%	4.25%	3.25%	5.35%	2.12%	11.00%	3.69%
2004	5.58%	1.60%	1211.92	67.68	19.407	40.60	23.75%	8.54%	2.18%	4.22%	2.04%	4.90%	2.02%	8.50%	3.65%
2005	5.47%	1.79%	1248.29	76.45	22.38	61.17	12.96%	15.32%	4.31%	4.39%	0.08%	6.16%	2.20%	8.00%	4.08%
2006	6.18%	1.77%	1418.3	87.72	25.05	73.16	14.74%	11.93%	4.88%	4.70%	-0.18%	5.93%	1.97%	12.50%	4.16%
2007	5.62%	1.89%	1468.36	82.54	27.73	95.36	-5.91%	10.70%	3.31%	4.02%	0.71%	5.03%	2.06%	5.00%	4.37%
2008	7.24%	3.11%	903.25	65.39	28.05	67.52	-20.78%	1.15%	1.59%	2.21%	0.62%	2.11%	4.05%	4.00%	6.43%
2009	5.35%	2.00%	1115.10	59.65	22.31	37.43	-8.78%	-20.46%	0.14%	3.84%	3.70%	0.28%	2.60%	7.20%	4.36%
2010	6.65%	1.84%	1257.64	83.66	23.12	55.53	40.25%	3.63%	0.13%	3.29%	3.16%	3.33%	2.24%	6.95%	5.20%
2011	7.72%	2.07%	1257.60	97.05	26.02	**71.28**	16.01%	12.54%	0.03%	1.88%	1.85%	2.75%	2.71%	7.18%	6.01%
2012	7.18%	2.13%	1426.19	102.47	30.44	75.90	5.58%	16.99%	0.05%	1.76%	1.71%	2.93%	2.47%	5.27%	5.78%
2013	5.81%	1.96%	1848.36	107.45	36.28	88.13	4.86%	19.19%	0.07%	3.04%	2.97%	5.01%	2.03%	4.28%	4.96%
2014	5.49%	1.92%	2058.90	113.01	39.44	101.98	5.17%	8.71%	0.05%	2.17%	2.12%	2.77%	2.24%	5.58%	5.78%
2015	5.20%	2.11%	2043.94	106.32	43.16	106.10	-5.92%	9.43%	0.21%	2.27%	2.06%	2.96%	2.46%	5.51%	6.12%
2016	4.86%	2.01%	2238.83	108.86	45.03	108.67	2.39%	4.33%	0.51%	2.45%	1.94%	2.64%	2.41%	5.54%	5.69%
2017	4.67%	1.86%	2673.61	124.94	49.73	108.28	14.77%	10.44%	1.39%	2.41%	1.02%	3.22%	2.36%	7.05%	5.08%
2018	5.92%	2.14%	2506.85	148.34	53.61	136.65	18.73%	7.80%	2.37%	2.68%	0.31%	3.24%	2.50%	4.12%	5.96%

DATA INPUT

Washington State Department of Revenue

2021 Assessment Year

Electric Industry

			Historic Figures (2020)												
Guideline Companies		Stock Price 12/31/20	Beta Levered	Fin'l Strength	Revenues Per Share	Cash Flow Per Share	Earnings Per Share	Dividends Per Share	Bk Value Per Share	Mkt/Bk	Common Shares	LTD (BV)	Trailing P/E Ratio	Div Yield	Calculated Debt
Name	Ticker	Yahoo	VL	VL	VL	VL	VL	VL	VL	Formula	VL	V L	V L	V L	Formula
Alliant Energy Corp	lnt	51.11	0.85	A	13.67	4.92	2.47	1.52	22.76	23.60	249,870,000	6,769,000,000	19.1	3.4%	119.65%
Ameren Corp	aee	78.06	0.80	A	22.87	8.08	3.50	2.00	35.29	2.21	253,300,000	11,078,000,000	20.4	3.1%	120.11%
Avangrid Inc	agr	45.02	0.85	B++	18.00	5.25	1.90	1.76	49.35	0.91	309,000,000	7,081,000,000	23.0	3.7%	156.15%
Avista Corp	ava	39.70	0.95	B++	18.85	5.10	1.85	1.62	29.35	1.35	69,000,000	2,060,800,000	22.2	4.2%	118.84%
Black Hills	bkh	60.89	1.00	A	26.70	7.30	3.65	2.17	40.65	1.50	61,480,000	3,526,900,000	16.4	3.9%	118.99%
CMS Energy Corp	cms	60.55	0.75	B++	23.12	6.24	2.64	1.63	19.02	3.18	288,940,000	13,690,000,000	20.8	3.2%	115.82%
CenterPoint Energy Inc	cnp	21.48	1.15	B+	13.45	3.46	1.29	0.90	10.78	1.99	551,360,000	11,521,000,000	15.2	3.3%	115.30%
Chesapeake Utilities	cpk	108.21	0.80	A	28.55	7.60	4.05	1.69	36.75	2.94	17,500,000	520,000,000	25.4	1.8%	104.88%
Consolidated Edison	ed	71.48	0.75	A+	35.70	9.50	3.90	3.06	55.45	1.29	343,000,000	19,206,000,000	17.5	4.4%	119.95%
Dominion Energy	D	74.52	0.80	B++	17.75	7.00	3.20	3.45	29.15	2.56	800,000,000	33,145,000,000	17.7	3.5%	120.98%
DTE Energy Co	dte	121.41	0.95	A	62.84	14.70	7.08	4.12	64.12	1.89	193,770,000	19,001,000,000	16.8	3.8%	114.07%
Duke Energy Corp	duk	90.62	0.85	A	31.40	12.13	5.07	3.82	60.65	1.49	764,000,000	56,049,000,000	18.8	4.2%	115.75%
Entergy Corp	etr	98.85	0.95	B++	50.51	18.21	6.90	3.74	54.56	1.81	200,240,000	21,206,000,000	12.7	4.5%	117.01%
Eversource Energy	es	85.86	0.90	A	25.50	6.85	3.60	2.27	42.95	2.00	345,000,000	16,415,000,000	24.9	2.7%	113.78%
Exelon Corp	exc	41.81	0.95	B+	33.80	9.10	3.00	1.53	34.00	1.23	976,000,000	35,902,000,000	14.0	3.8%	118.53%
FirstEnergy Corp	fe	30.24	0.85	B+	20.25	3.75	1.75	1.56	13.30	2.27	543,000,000	22,203,000,000	24.6	5.0%	113.80%
Fortis Inc	fts.to	40.42	0.75	B++	19.14	5.65	2.60	1.97	36.85	1.10	466,800,000	23,444,000,000	19.1	4.2%	118.78%
Hawaiian Electric	he	35.05	0.80	A	23.20	4.45	1.80	1.32	21.60	1.62	110,000,000	2,068,900,000	17.4	3.9%	121.08%
Idacorp Inc	ida	95.25	0.80	A	26.25	8.20	4.65	2.72	50.70	1.88	50,700,000	2,000,400,000	18.5	3.2%	123.32%
MGE Energy Inc	mgee	69.63	0.70	A+	15.32	4.57	2.60	1.45	27.76	2.51	35,160,000	536,800,000	25.2	2.4%	121.02%
NorthWestern Corp	nwe	58.31	0.95	B++	24.00	6.80	3.15	2.40	41.10	1.42	50,600,000	2,204,400,000	17.8	4.4%	113.58%
OGE Energy Corp	oge	31.46	1.05	A	10.61	4.03	2.08	1.58	18.15	1.73	200,100,000	3,494,400,000	14.2	5.5%	124.85%
Otter Tail Corp	ottr	42.61	0.85	A	21.46	4.29	2.34	1.48	21.00	2.03	41,470,000	624,400,000	17.6	3.8%	112.29%
PNM Resources Inc	pnm	48.20	0.95	B+	17.50	5.65	2.20	1.18	23.80	2.03	85,830,000	2,509,800,000	19.8	2.7%	101.84%
Portland General Electric	por	42.77	0.85	B++	24.00	6.25	1.55	1.59	28.95	1.48	89,550,000	2,657,000,000	14.3	4.0%	124.49%
Public Service Enterprise Group	peg	58.30	0.90	A++	19.00	6.35	3.40	1.96	31.50	1.85	505,000,000	14,792,000,000	15.8	3.6%	118.31%
Sempra Energy	sre	127.41	1.00	A	38.80	12.55	6.80	4.18	72.35	1.76	290,000,000	21,770,000,000	18.4	3.8%	114.46%
WEC Energy Group Inc	wec	91.30	0.80	A+	22.96	6.90	3.79	2.53	33.19	2.75	315,430,000	11,728,000,000	24.9	3.3%	115.20%
Xcel Energy Inc	xel	66.67	0.80	A+	21.15	6.60	2.80	1.72	27.25	2.45	539,000,000	19,960,000,000	23.0	2.8%	121.66%
Average													19.2		
Harmonic Mean													18.5		
Median													18.5		

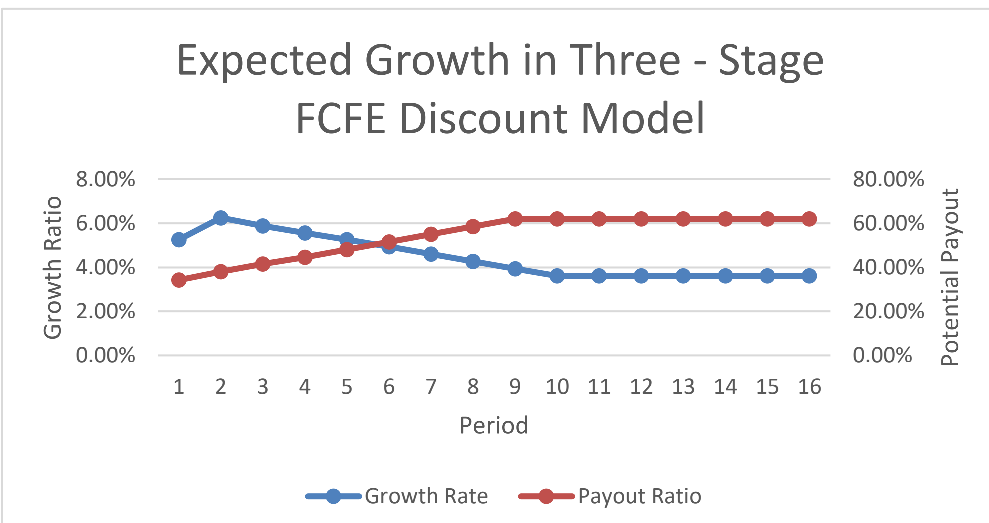
			Projected (Next Year) 2021									Income Statement	Balance Sheet		
Payout Ratio	All Div'ds to Net Profits	Rtn on Shrhldrs Equity	Revenues Per Share	Cash Flow Per Share	Earnings Per Share	Dividends Per Share	Bk Value Per Share	All Div'ds to Net Profits	Rtn on Shrhldrs Equity	CF Projection 24-26	Earnings Projection 24-26	Operating Income	Current Assets	PP & E Gross	Intangibles (excl. GW)
Formula	**V L**	**V L**	**V L**	**V L**	**V L**	**V L**	**V L**	**VL**	**V L**	**V L**	**VL**	**Morningstar**	**Morningstar**	**Morningstar**	**Morningstar**
61.54%	62%	10.8%	14.30	5.10	2.60	1.61	24.35	62%	10.5%	5.90	3.25	740,000,000	887,000,000	19,477,000,000	
57.14%	57%	9.7%	23.55	8.55	3.70	2.20	37.45	57%	10.0%	10.75	4.75	1,300,000,000	1,653,000,000	40,580,000,000	-
92.63%	98%	3.5%	21.05	5.65	2.15	1.76	49.75	82%	4.5%	7.00	2.75	869,000,000	3,777,000,000	36,703,000,000	624,000,000
87.57%	88%	6.0%	19.30	5.40	2.10	1.68	29.35	78%	7.0%	6.25	2.50	232,700,000	343,977,000	7,124,301,000	-
59.45%	59%	9.0%	27.15	7.60	3.80	2.31	42.65	59%	9.0%	8.75	4.25	428,303,000	493,291,000	7,117,990,000	11,944,000
61.74%	62%	13.7%	23.55	6.60	2.85	1.74	20.85	61%	13.5%	8.25	3.75	1,362,000,000	2,404,000,000	28,992,000,000	-
69.77%	66%	10.3%	13.10	3.50	1.40	0.65	12.00	54%	11.0%	4.25	1.85	1,224,000,000	2,920,000,000	32,514,000,000	
41.73%	44%	10.5%	33.35	8.35	4.25	1.83	41.40	46%	9.5%	11.90	5.75	112,593,000	136,431,000	1,981,115,000	13,777,000
78.46%	76%	7.0%	35.80	10.05	4.25	3.10	57.15	70%	7.5%	11.75	5.00	2,654,000,000	5,301,000,000	59,102,000,000	1,688,000,000
107.81%	NMF	9.5%	17.75	7.00	3.85	2.52	30.75	67%	11.5%	8.75	4.75	4,099,000,000	6,886,000,000	82,959,000,000	1,295,000,000
58.19%	56%	11.0%	64.45	15.25	7.15	4.41	66.90	62%	10.5%	19.00	9.25	2,046,000,000	3,498,000,000	38,149,000,000	2,552,000,000
75.35%	77%	8.0%	32.40	12.70	5.15	3.90	61.95	76%	8.0%	15.50	6.25	5,527,000,000	8,682,000,000	157,133,000,000	
54.20%	55%	12.6%	50.75	17.95	5.95	3.86	57.45	65%	10.5%	22.75	7.50	1,795,818,000	4,559,899,000	63,478,072,000	
63.06%	63%	8.0%	26.80	7.50	3.85	2.40	44.80	62%	8.5%	9.00	5.00	1,988,734,000	3,130,143,000	39,836,400,000	-
51.00%	50%	8.5%	34.75	9.45	3.00	1.61	35.35	52%	8.5%	11.25	3.50	2,799,000,000	12,562,000,000	109,311,000,000	1,295,000,000
89.14%	89%	13.0%	21.05	5.00	2.75	1.56	14.55	57%	19.0%	6.25	3.50	1,685,000,000	3,714,000,000	45,232,000,000	226,000,000
75.77%	67%	6.7%	19.70	6.00	2.80	2.08	38.00	49%	7.0%	7.50	3.25	1,881,000,000	1,959,000,000	36,534,000,000	1,515,750,000
73.33%	73%	8.5%	24.30	4.60	1.85	1.32	22.30	71%	8.5%	5.25	2.00	311,493,000	7,871,529,000	8,321,948,000	
58.49%	58%	9.0%	27.25	8.40	4.80	2.89	52.55	60%	9.0%	9.75	5.75	297,656,000	642,401,000	6,903,341,000	
55.77%	56%	9.5%	15.50	4.85	2.70	1.52	28.15	56%	9.5%	5.75	3.25	109,997,000	209,519,000	2,564,898,000	
76.19%	75%	8.0%	24.55	7.25	3.50	2.48	42.40	70%	8.5%	8.50	4.00	236,204,000	308,680,000	6,916,107,000	-
75.96%	76%	11.5%	12.25	4.25	2.10	1.64	18.60	77%	11.5%	5.50	2.75	522,200,000	428,500,000	13,528,900,000	
63.25%	63%	11.0%	22.60	4.55	2.45	1.56	21.85	63%	11.5%	5.75	3.25	147,886,000	234,832,000	3,002,450,000	22,517,000
53.64%	59%	8.5%	18.05	6.10	2.25	1.33	24.70	59%	9.0%	7.50	3.00	286,379,000	377,479,000	8,970,894,000	
102.58%	NMF	5.5%	24.55	7.50	2.65	1.68	29.90	63%	9.0%	8.75	3.00	269,000,000	721,000,000	11,403,000,000	-
57.65%	57%	11.0%	19.80	6.35	3.40	2.04	33.10	56%	11.0%	8.00	4.50	2,147,000,000	3,630,000,000	48,831,000,000	158,000,000
61.47%	65%	9.0%	37.30	13.25	7.90	4.50	77.10	58%	9.5%	16.75	10.00	2,833,000,000	4,511,000,000	54,471,000,000	250,000,000
66.75%	67%	11.4%	23.80	7.40	4.00	2.71	34.35	67%	11.5%	10.00	5.25	1,706,100,000	2,083,000,000	35,072,100,000	
61.43%	62%	10.0%	22.15	7.00	2.95	1.82	25.55	61%	10.5%	9.00	3.50	2,116,000,000	3,275,000,000	64,128,000,000	-
	65.9%	9.3%						62.8%	9.83%	9.49					
	63.9%	8.6%						61.6%	9.25%	8.15					
	63.0%	9.5%						62.0%	9.50%	8.75					

		Cash Flow Statement	Other Financials	
Current Liabilities	Long Term Debt Less Current Maturities	Depreciation & Amortization	Carrying Value Debt	Fair Value Debt
Morningstar	Morningstar	Morningstar	10-K	10-K
1,297,000,000	6,769,000,000	615,000,000	6,777,000,000	8,109,000,000
2,180,000,000	11,078,000,000	1,153,000,000	11,086,000,000	13,315,000,000
3,069,000,000	10,478,000,000	974,000,000	7,791,000,000	12,166,000,000
505,879,000	2,111,628,000	224,223,000	2,126,797,000	2,527,587,000
696,533,000	3,528,100,000	224,457,000	3,536,536,000	4,208,167,000
3,074,000,000	13,634,000,000	1,048,000,000	15,120,000,000	17,512,000,000
4,825,000,000	1,895,000,000	1,191,000,000	20,848,000,000	24,038,000,000
329,032,000	518,371,000	67,716,000	523,000,000	548,500,000
7,354,000,000	20,382,000,000	1,920,000,000	22,349,000,000	26,808,000,000
10,843,000,000	33,076,000,000	2,836,000,000	48,839,000,000	59,086,000,000
2,691,000,000	18,977,000,000	1,443,000,000	19,439,000,000	22,174,000,000
16,305,000,000	55,625,000,000	5,486,000,000	59,863,000,000	69,292,000,000
7,060,506,000	21,205,761,000	2,257,750,000	21,205,761,000	24,813,818,000
4,915,012,000	15,622,788,000	1,159,059,000	16,719,200,000	19,023,500,000
12,771,000,000	35,483,000,000	6,527,000,000	36,912,000,000	43,752,000,000
5,004,000,000	22,131,000,000	1,199,000,000	22,377,000,000	25,465,000,000
3,111,000,000	17,334,750,000	1,071,000,000	18,375,000,000	21,825,000,000
335,273,000	2,208,799,000	290,778,000	1,561,302,000	1,890,490,000
287,571,000	2,000,414,000	175,941,000	2,000,414,000	2,466,967,000
190,926,000	519,303,000	74,188,000	528,220,000	639,271,000
466,423,000	2,315,261,000	179,644,000	2,315,261,000	2,629,755,000
697,400,000	3,494,400,000	391,300,000	3,349,600,000	4,182,100,000
436,786,000	624,432,000	82,037,000	764,519,000	858,455,000
977,662,000	2,719,632,000	314,668,000	3,295,150,000	3,355,761,000
815,000,000	2,886,000,000	454,000,000	3,059,000,000	3,808,000,000
5,522,000,000	14,496,000,000	1,469,000,000	16,180,000,000	19,143,000,000
6,839,000,000	21,781,000,000	1,666,000,000	22,259,000,000	25,478,000,000
4,148,100,000	11,672,800,000	975,900,000	12,450,500,000	14,343,200,000
4,239,000,000	19,645,000,000	2,082,000,000	20,066,000,000	24,412,000,000

Three Stage Free Cash Flow to Equity Discount Model

Company	Alliant Energy C	3.80%	GDP
Ticker	lnt	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

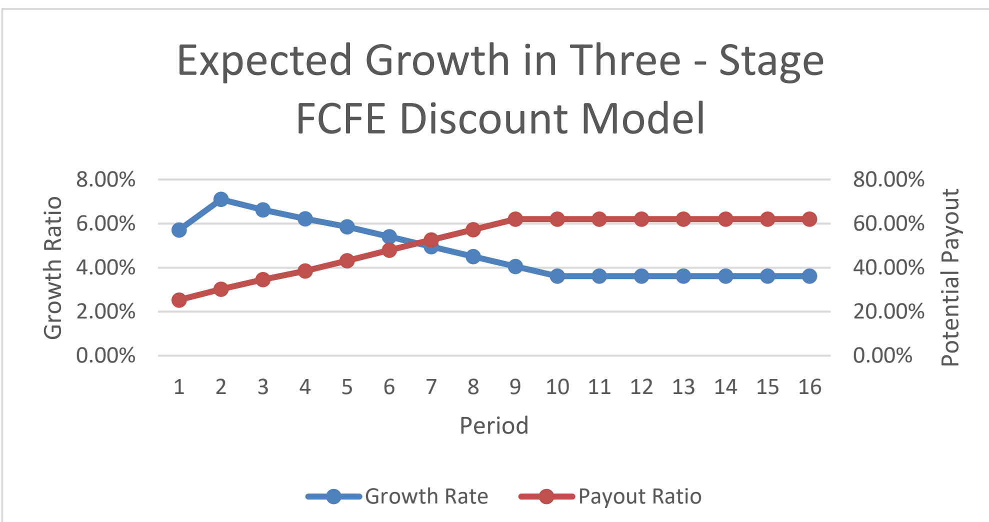
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		55.40%	44.60%	***2.47***			**(51.11)**
	1	5.26%	65.79%	34.21%	***2.60***	0.89		0.89
	2	6.25%	61.92%	38.08%	2.76	1.05		1.05
Stage 1	3	5.88%	58.48%	41.52%	2.93	1.21		1.21
	4	5.56%	55.40%	44.60%	3.09	1.38		1.38
	5	5.26%	51.92%	48.08%	***3.25***	1.56		1.56
	6	4.93%	48.44%	51.56%	3.41	1.76		1.76
	7	4.60%	44.96%	55.04%	3.57	1.96		1.96
Stage 2	8	4.27%	41.48%	58.52%	3.72	2.18		2.18
	9	3.94%	38.00%	62.00%	3.87	2.40		2.40
	10	3.61%	38.00%	62.00%	4.01	2.48	74.71	77.19
Stage 3	11+	3.61%	38.00%	62.00%	4.15	*2.57*		
							K_e =	**6.53%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Ameren Corp	3.80%	GDP
Ticker	aee	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

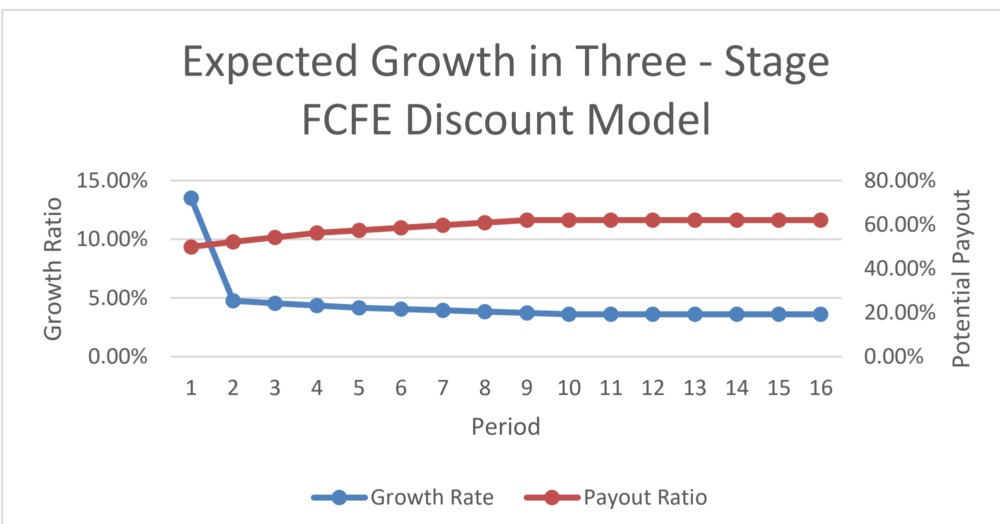
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		60.15%	39.85%	***3.50***			**(78.06)**
Stage 1	1	5.71%	74.68%	25.32%	***3.70***	0.94		0.94
	2	7.09%	69.73%	30.27%	3.96	1.20		1.20
	3	6.62%	65.40%	34.60%	4.23	1.46		1.46
	4	6.21%	61.57%	38.43%	4.49	1.72		1.72
	5	5.85%	56.86%	43.14%	***4.75***	2.05		2.05
Stage 2	6	5.40%	52.14%	47.86%	5.01	2.40		2.40
	7	4.95%	47.43%	52.57%	5.25	2.76		2.76
	8	4.51%	42.71%	57.29%	5.49	3.15		3.15
	9	4.06%	38.00%	62.00%	5.71	3.54		3.54
	10	3.61%	38.00%	62.00%	5.92	3.67	110.42	114.09
Stage 3	11+	3.61%	38.00%	62.00%	6.13	*3.80*		
							K_e =	**5.90%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Avangrid Inc	3.80%	GDP
Ticker	agr	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

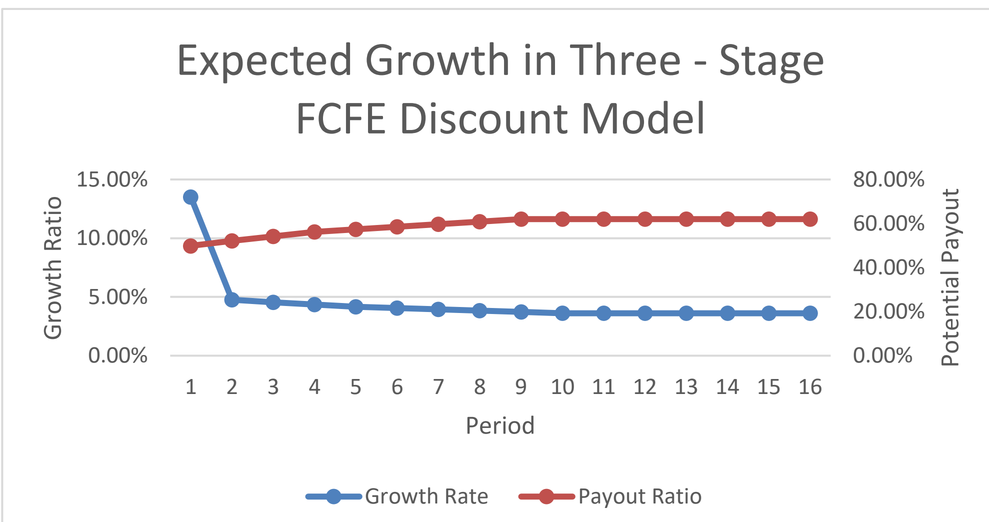
		Growth	Reinvestment	Payout			Terminal	Cash
	Year	Rate	Rate	Ratio	Earnings	FCFE	Value	Flow
Historic	0		138.50%	-38.50%	***1.90***			**(45.02)**
	1	13.16%	73.44%	26.56%	***2.15***	0.57		0.57
	2	6.98%	68.65%	31.35%	2.30	0.72		0.72
Stage 1	3	6.52%	64.45%	35.55%	2.45	0.87		0.87
	4	6.12%	60.73%	39.27%	2.60	1.02		1.02
	5	5.77%	56.18%	43.82%	***2.75***	1.20		1.20
	6	5.34%	51.64%	48.36%	2.90	1.40		1.40
	7	4.91%	47.09%	52.91%	3.04	1.61		1.61
Stage 2	8	4.47%	42.55%	57.45%	3.17	1.82		1.82
	9	4.04%	38.00%	62.00%	3.30	2.05		2.05
	10	3.61%	38.00%	62.00%	3.42	2.12	63.83	65.95
Stage 3	11+	3.61%	38.00%	62.00%	3.55	*2.20*		
							K_e =	**5.96%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Avista Corp	3.80%	GDP
Ticker	ava	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

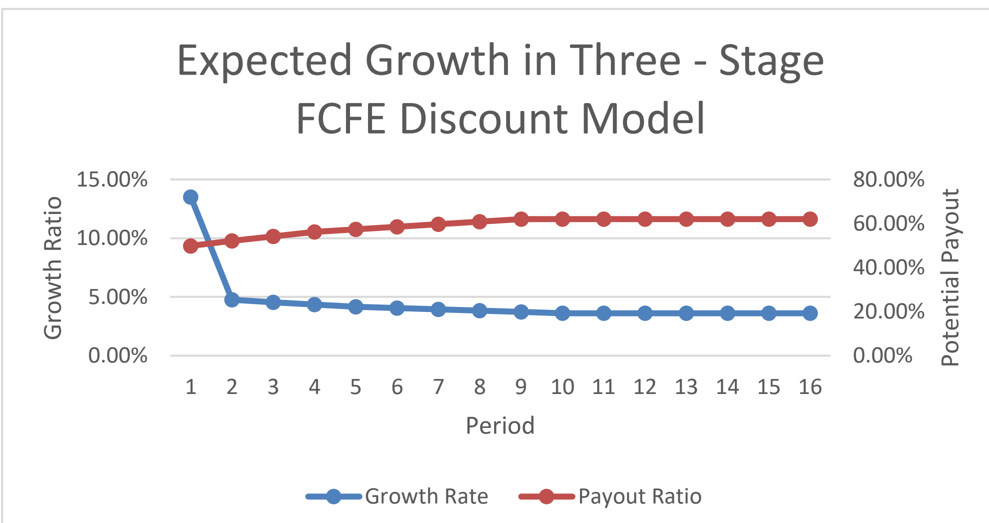
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		142.25%	-42.25%	***1.85***			**(39.70)**
	1	13.51%	50.13%	49.87%	***2.10***	1.05		1.05
	2	4.76%	47.85%	52.15%	2.20	1.15		1.15
Stage 1	3	4.55%	45.77%	54.23%	2.30	1.25		1.25
	4	4.35%	43.86%	56.14%	2.40	1.35		1.35
	5	4.17%	42.69%	57.31%	***2.50***	1.43		1.43
	6	4.06%	41.52%	58.48%	2.60	1.52		1.52
	7	3.94%	40.34%	59.66%	2.70	1.61		1.61
Stage 2	8	3.83%	39.17%	60.83%	2.81	1.71		1.71
	9	3.72%	38.00%	62.00%	2.91	1.81		1.81
	10	3.61%	38.00%	62.00%	3.02	1.87	56.27	58.14
Stage 3	11+	3.61%	38.00%	62.00%	3.13	*1.94*		
							K_e =	**6.66%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Black Hills	3.80%	GDP
Ticker	bkh	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

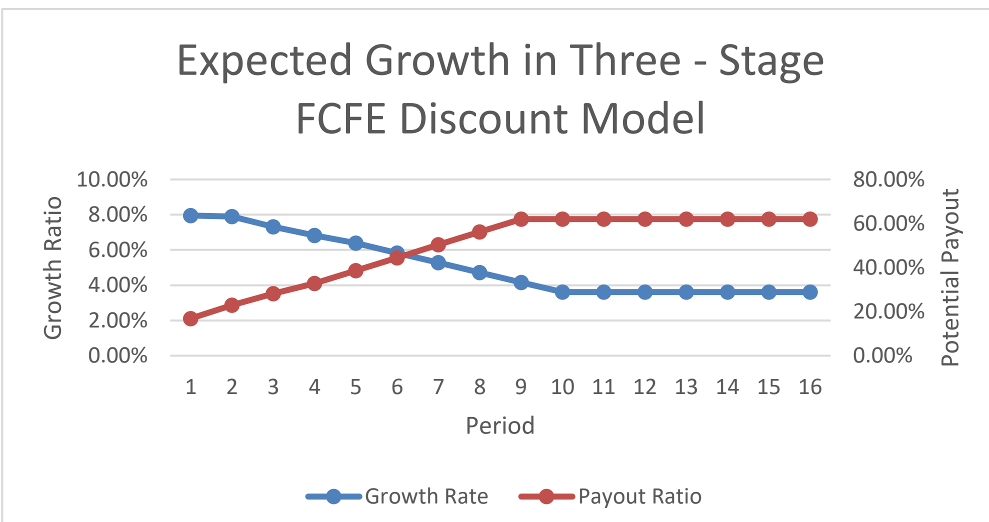
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		43.26%	56.74%	***3.65***			**(60.89)**
	1	4.11%	31.16%	68.84%	***3.80***	2.62		2.62
	2	2.96%	30.27%	69.73%	3.91	2.73		2.73
Stage 1	3	2.88%	29.42%	70.58%	4.03	2.84		2.84
	4	2.80%	28.62%	71.38%	4.14	2.95		2.95
	5	2.72%	30.50%	69.50%	***4.25***	2.95		2.95
	6	2.90%	32.37%	67.63%	4.37	2.96		2.96
	7	3.08%	34.25%	65.75%	4.51	2.96		2.96
Stage 2	8	3.25%	36.12%	63.88%	4.65	2.97		2.97
	9	3.43%	38.00%	62.00%	4.81	2.98		2.98
	10	3.61%	38.00%	62.00%	4.99	3.09	93.02	96.11
Stage 3	11+	3.61%	38.00%	62.00%	5.17	*3.20*		
							K_e =	**8.32%**



Three Stage Free Cash Flow to Equity Discount Model

Company	CMS Energy Coı	3.80%	GDP
Ticker	cms	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

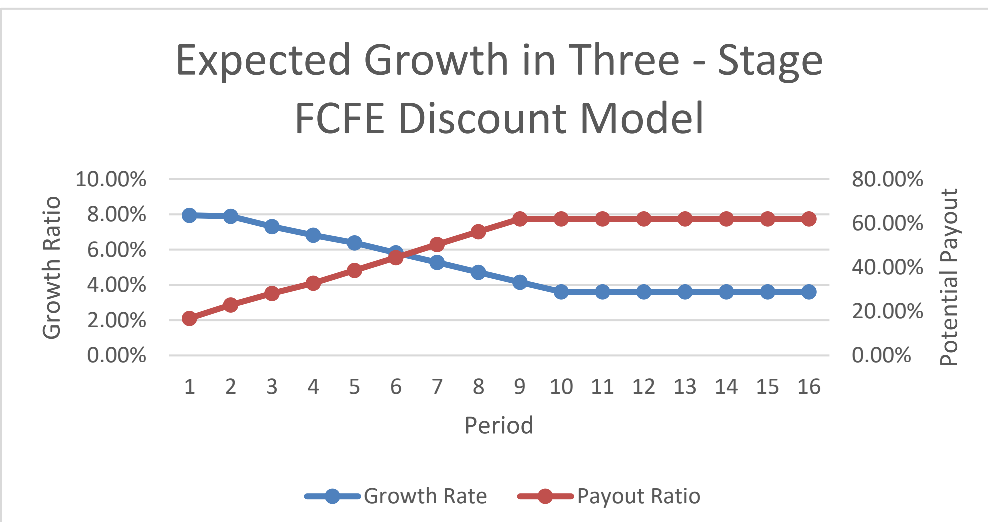
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		83.73%	16.27%	***2.64***			**(60.55)**
	1	7.95%	83.10%	16.90%	***2.85***	0.48		0.48
	2	7.89%	77.02%	22.98%	3.08	0.71		0.71
Stage 1	3	7.32%	71.77%	28.23%	3.30	0.93		0.93
	4	6.82%	67.19%	32.81%	3.53	1.16		1.16
	5	6.38%	61.35%	38.65%	***3.75***	1.45		1.45
	6	5.83%	55.51%	44.49%	3.97	1.77		1.77
	7	5.27%	49.68%	50.32%	4.18	2.10		2.10
Stage 2	8	4.72%	43.84%	56.16%	4.38	2.46		2.46
	9	4.16%	38.00%	62.00%	4.56	2.83		2.83
	10	3.61%	38.00%	62.00%	4.72	2.93	88.06	90.99
Stage 3	11+	3.61%	38.00%	62.00%	4.89	*3.03*		
							K_e =	**6.00%**



Three Stage Free Cash Flow to Equity Discount Model

Company	CenterPoint Ene	3.80%	GDP
Ticker	cnp	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

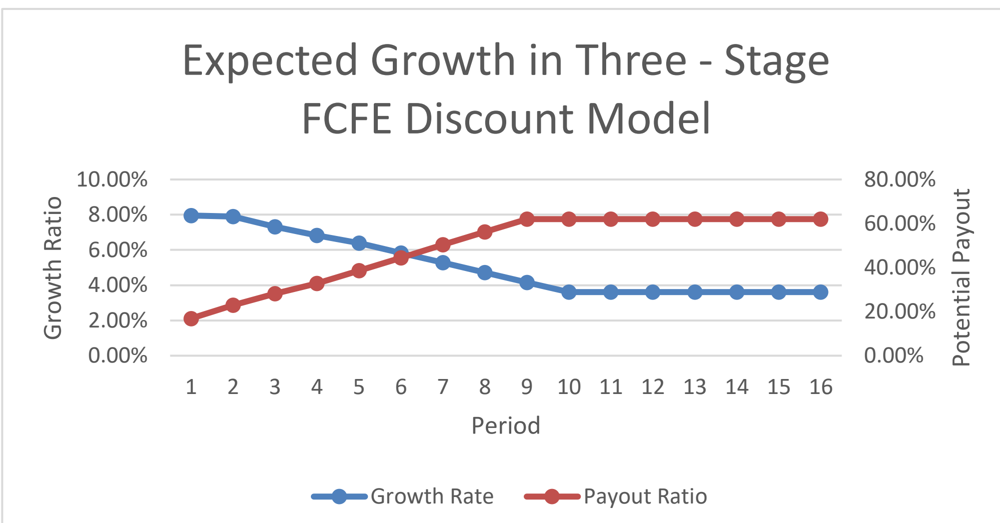
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		89.76%	10.24%	*1.29*			(21.48)
	1	8.53%	84.59%	15.41%	*1.40*	0.22		0.22
	2	8.04%	78.29%	21.71%	1.51	0.33		0.33
Stage 1	3	7.44%	72.87%	27.13%	1.63	0.44		0.44
	4	6.92%	68.16%	31.84%	1.74	0.55		0.55
	5	6.47%	62.12%	37.88%	*1.85*	0.70		0.70
	6	5.90%	56.09%	43.91%	1.96	0.86		0.86
	7	5.33%	50.06%	49.94%	2.06	1.03		1.03
Stage 2	8	4.76%	44.03%	55.97%	2.16	1.21		1.21
	9	4.18%	38.00%	62.00%	2.25	1.40		1.40
	10	3.61%	38.00%	62.00%	2.33	1.45	43.52	44.97
Stage 3	11+	3.61%	38.00%	62.00%	2.42	*1.50*		
							K_e =	**9.80%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Chesapeake Uti	3.80%	GDP
Ticker	cpk	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

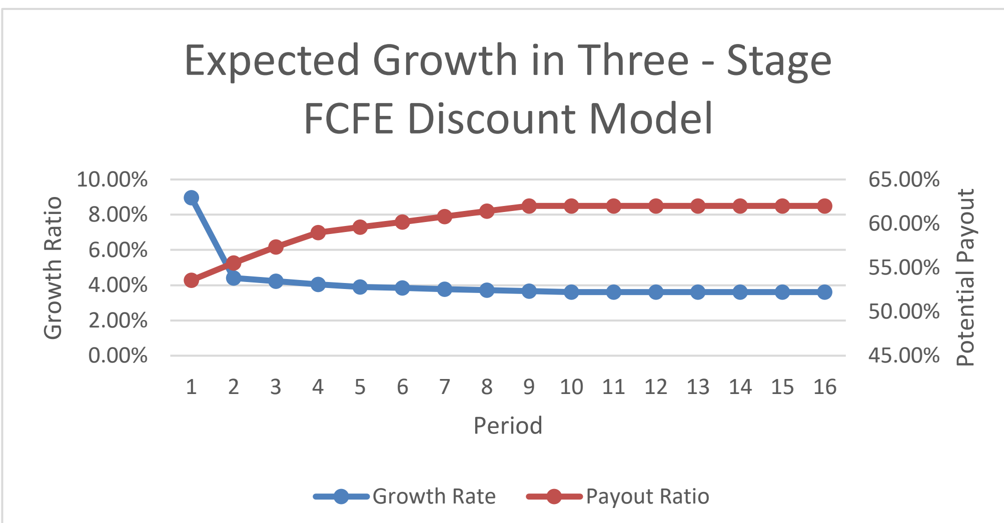
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		51.98%	48.02%	***4.05***			#####
	1	4.94%	92.88%	7.12%	***4.25***	0.30		0.30
	2	8.82%	85.35%	14.65%	4.63	0.68		0.68
Stage 1	3	8.11%	78.95%	21.05%	5.00	1.05		1.05
	4	7.50%	73.44%	26.56%	5.38	1.43		1.43
	5	6.98%	66.35%	33.65%	***5.75***	1.93		1.93
	6	6.30%	59.26%	40.74%	6.11	2.49		2.49
	7	5.63%	52.18%	47.82%	6.46	3.09		3.09
Stage 2	8	4.96%	45.09%	54.91%	6.78	3.72		3.72
	9	4.28%	38.00%	62.00%	7.07	4.38		4.38
	10	3.61%	38.00%	62.00%	7.32	4.54	136.55	141.09
Stage 3	11+	3.61%	38.00%	62.00%	7.59	*4.70*		
							K_e =	**4.19%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Consolidated Ed	3.80%	GDP
Ticker	ed	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

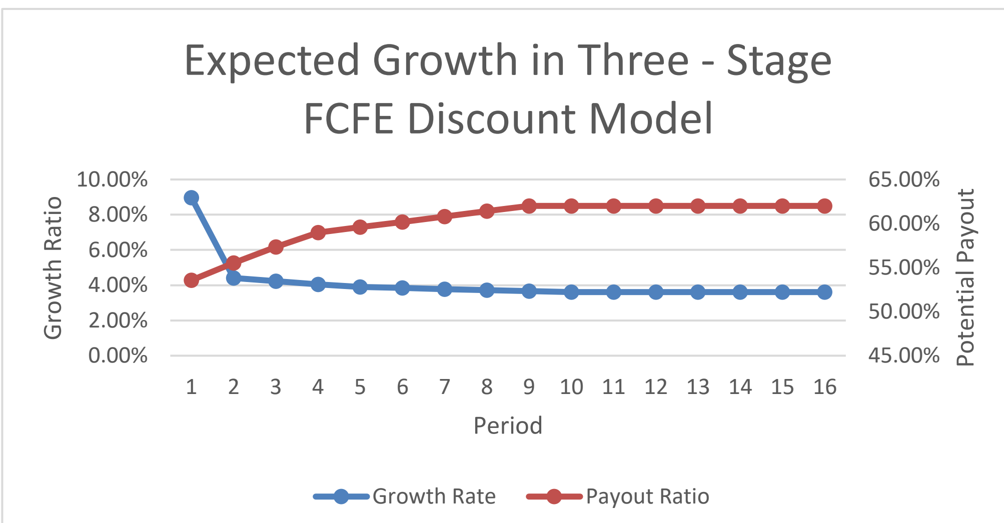
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		94.47%	5.53%	***3.90***			**(71.48)**
	1	8.97%	46.44%	53.56%	***4.25***	2.28		2.28
	2	4.41%	44.48%	55.52%	4.44	2.46		2.46
Stage 1	3	4.23%	42.67%	57.33%	4.63	2.65		2.65
	4	4.05%	41.01%	58.99%	4.81	2.84		2.84
	5	3.90%	40.41%	59.59%	***5.00***	2.98		2.98
	6	3.84%	39.81%	60.19%	5.19	3.13		3.13
	7	3.78%	39.20%	60.80%	5.39	3.28		3.28
Stage 2	8	3.72%	38.60%	61.40%	5.59	3.43		3.43
	9	3.67%	38.00%	62.00%	5.79	3.59		3.59
	10	3.61%	38.00%	62.00%	6.00	3.72	111.96	115.68
Stage 3	11+	3.61%	38.00%	62.00%	6.22	*3.86*		
							K_e =	**8.01%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Dominion Energ	3.80%	GDP
Ticker	D	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

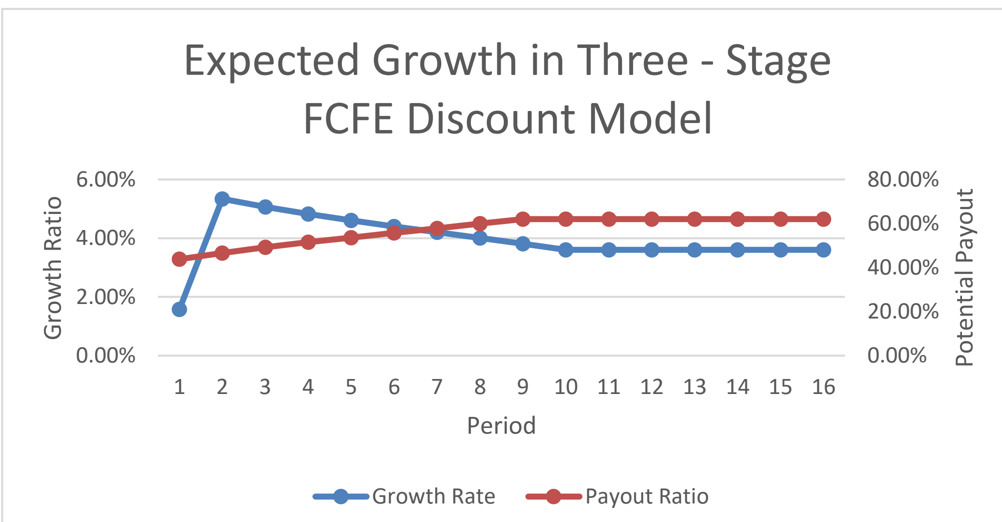
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		213.82%	-113.82%	***3.20***			**(74.52)**
	1	20.31%	61.52%	38.48%	***3.85***	1.48		1.48
	2	5.84%	58.12%	41.88%	4.08	1.71		1.71
Stage 1	3	5.52%	55.08%	44.92%	4.30	1.93		1.93
	4	5.23%	52.34%	47.66%	4.53	2.16		2.16
	5	4.97%	49.47%	50.53%	***4.75***	2.40		2.40
	6	4.70%	46.60%	53.40%	4.97	2.66		2.66
	7	4.43%	43.74%	56.26%	5.19	2.92		2.92
Stage 2	8	4.15%	40.87%	59.13%	5.41	3.20		3.20
	9	3.88%	38.00%	62.00%	5.62	3.48		3.48
	10	3.61%	38.00%	62.00%	5.82	3.61	108.58	112.19
Stage 3	11+	3.61%	38.00%	62.00%	6.03	*3.74*		
							K_e =	**6.62%**



Three Stage Free Cash Flow to Equity Discount Model

Company	DTE Energy Co	3.80%	GDP
Ticker	dte	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

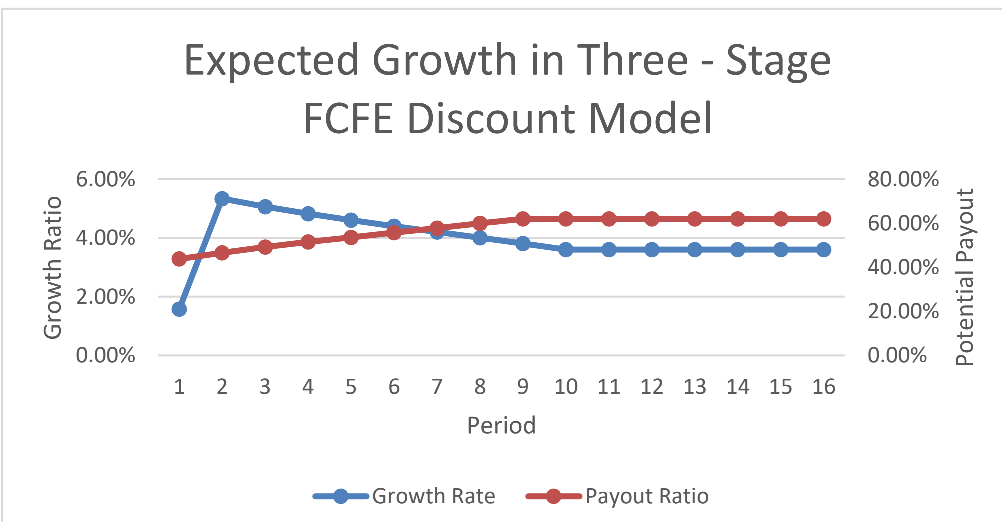
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		10.41%	89.59%	*7.08*			(121.41)
	1	0.99%	77.29%	22.71%	*7.15*	1.62		1.62
	2	7.34%	72.00%	28.00%	7.68	2.15		2.15
Stage 1	3	6.84%	67.39%	32.61%	8.20	2.67		2.67
	4	6.40%	63.34%	36.66%	8.73	3.20		3.20
	5	6.02%	58.27%	41.73%	*9.25*	3.86		3.86
	6	5.54%	53.20%	46.80%	9.76	4.57		4.57
	7	5.05%	48.14%	51.86%	10.26	5.32		5.32
Stage 2	8	4.57%	43.07%	56.93%	10.72	6.11		6.11
	9	4.09%	38.00%	62.00%	11.16	6.92		6.92
	10	3.61%	38.00%	62.00%	11.57	7.17	215.71	222.88
Stage 3	11+	3.61%	38.00%	62.00%	11.98	*7.43*		
							K_e =	**8.48%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Duke Energy Co	3.80%	GDP
Ticker	duk	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		16.61%	83.39%	*5.07*			(90.62)
Stage 1	1	1.58%	56.21%	43.79%	*5.15*	2.26		2.26
	2	5.34%	53.36%	46.64%	5.43	2.53		2.53
	3	5.07%	50.78%	49.22%	5.70	2.81		2.81
	4	4.82%	48.45%	51.55%	5.98	3.08		3.08
	5	4.60%	46.36%	53.64%	*6.25*	3.35		3.35
Stage 2	6	4.40%	44.27%	55.73%	6.53	3.64		3.64
	7	4.21%	42.18%	57.82%	6.80	3.93		3.93
	8	4.01%	40.09%	59.91%	7.07	4.24		4.24
	9	3.81%	38.00%	62.00%	7.34	4.55		4.55
	10	3.61%	38.00%	62.00%	7.61	4.72	141.86	146.58
Stage 3	11+	3.61%	38.00%	62.00%	7.88	*4.89*		
							K_e =	**7.65%**



Three Stage Free Cash Flow to Equity Discount Model

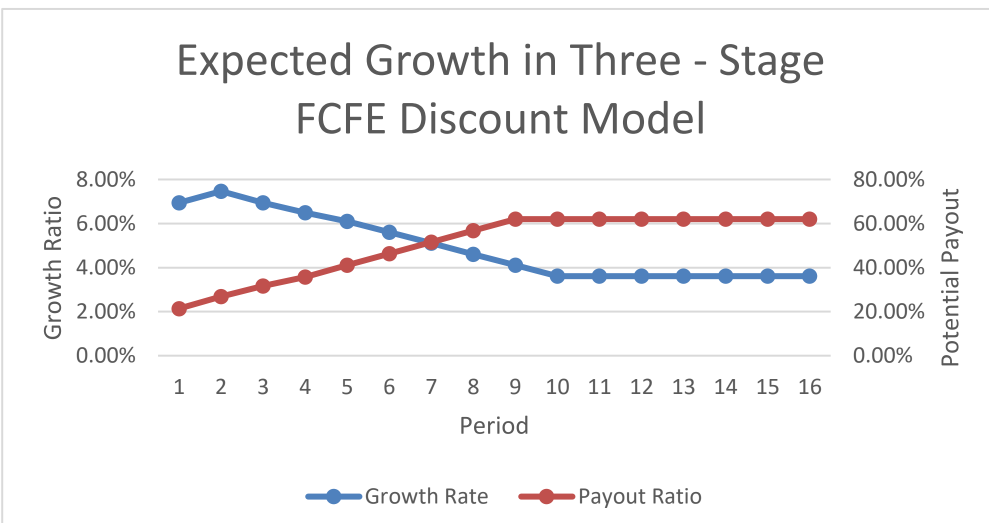
Company	Entergy Corp	3.80%	GDP
Ticker	etr	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		-144.93%	244.93%	***6.90***			**(98.85)**
Stage 1	1	-13.77%	68.55%	31.45%	***5.95***	1.87		1.87
	2	6.51%	64.36%	35.64%	6.34	2.26		2.26
	3	6.11%	60.65%	39.35%	6.73	2.65		2.65
	4	5.76%	57.35%	42.65%	7.11	3.03		3.03
	5	5.45%	53.48%	46.52%	***7.50***	3.49		3.49
Stage 2	6	5.08%	49.61%	50.39%	7.88	3.97		3.97
	7	4.71%	45.74%	54.26%	8.25	4.48		4.48
	8	4.35%	41.87%	58.13%	8.61	5.01		5.01
	9	3.98%	38.00%	62.00%	8.95	5.55		5.55
	10	3.61%	38.00%	62.00%	9.28	5.75	173.01	178.76
Stage 3	11+	3.61%	38.00%	62.00%	9.61	*5.96*		
							K_e =	**8.58%**

Three Stage Free Cash Flow to Equity Discount Model

Company	Eversource Ene	3.80%	GDP
Ticker	es	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

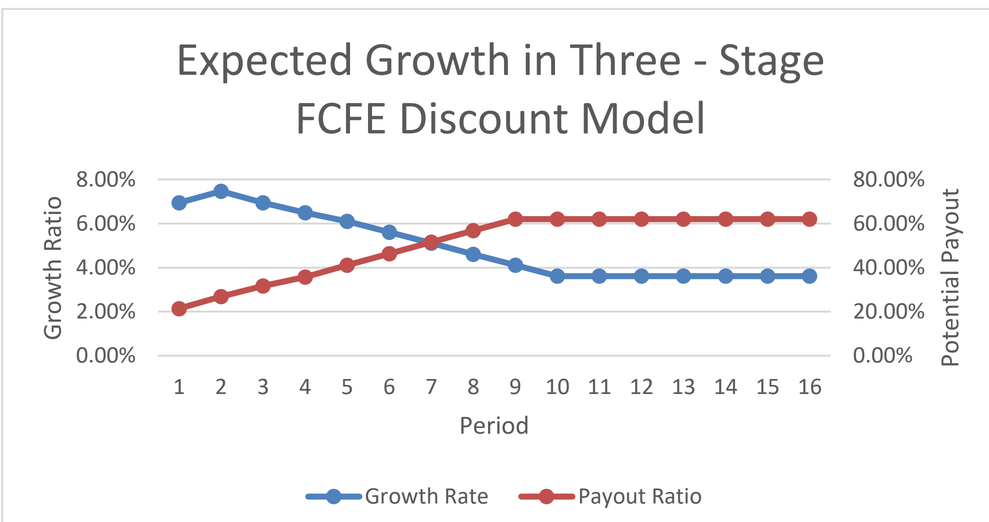
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		73.10%	26.90%	***3.60***			**(85.86)**
	1	6.94%	78.61%	21.39%	***3.85***	0.82		0.82
	2	7.47%	73.14%	26.86%	4.14	1.11		1.11
Stage 1	3	6.95%	68.39%	31.61%	4.43	1.40		1.40
	4	6.50%	64.22%	35.78%	4.71	1.69		1.69
	5	6.10%	58.98%	41.02%	***5.00***	2.05		2.05
	6	5.60%	53.73%	46.27%	5.28	2.44		2.44
	7	5.10%	48.49%	51.51%	5.55	2.86		2.86
Stage 2	8	4.61%	43.24%	56.76%	5.81	3.29		3.29
	9	4.11%	38.00%	62.00%	6.04	3.75		3.75
	10	3.61%	38.00%	62.00%	6.26	3.88	116.78	120.67
Stage 3	11+	3.61%	38.00%	62.00%	6.49	*4.02*		
							K_e =	**5.35%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Exelon Corp	3.80%	GDP
Ticker	exc	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

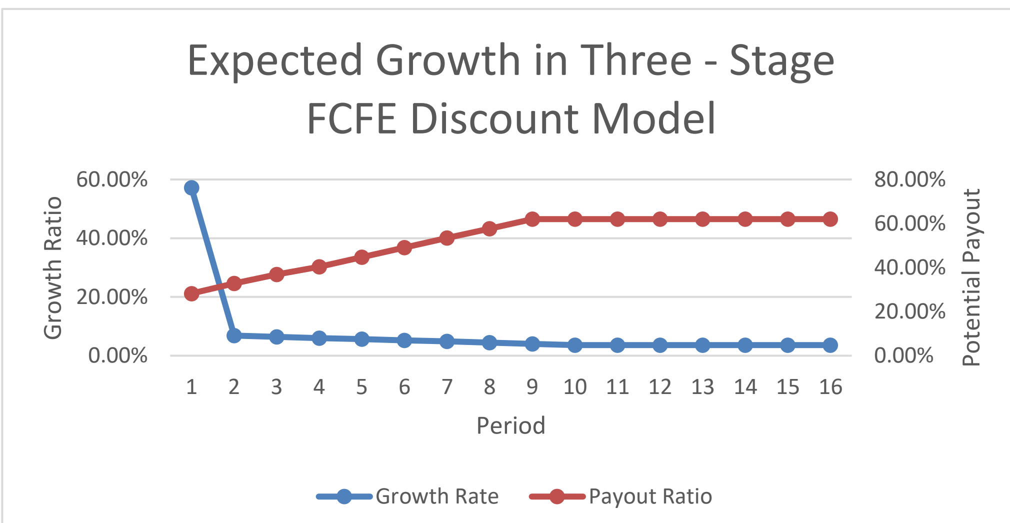
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		0.00%	100.00%	***3.00***			**(41.81)**
	1	0.00%	43.86%	56.14%	***3.00***	1.68		1.68
	2	4.17%	42.11%	57.89%	3.13	1.81		1.81
Stage 1	3	4.00%	40.49%	59.51%	3.25	1.93		1.93
	4	3.85%	38.99%	61.01%	3.38	2.06		2.06
	5	3.70%	38.79%	61.21%	***3.50***	2.14		2.14
	6	3.68%	38.59%	61.41%	3.63	2.23		2.23
	7	3.67%	38.39%	61.61%	3.76	2.32		2.32
Stage 2	8	3.65%	38.20%	61.80%	3.90	2.41		2.41
	9	3.63%	38.00%	62.00%	4.04	2.51		2.51
	10	3.61%	38.00%	62.00%	4.19	2.60	78.08	80.67
Stage 3	11+	3.61%	38.00%	62.00%	4.34	*2.69*		
							K_e =	**10.35%**



Three Stage Free Cash Flow to Equity Discount Model

Company	FirstEnergy Corp	3.80%	GDP
Ticker	fe	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

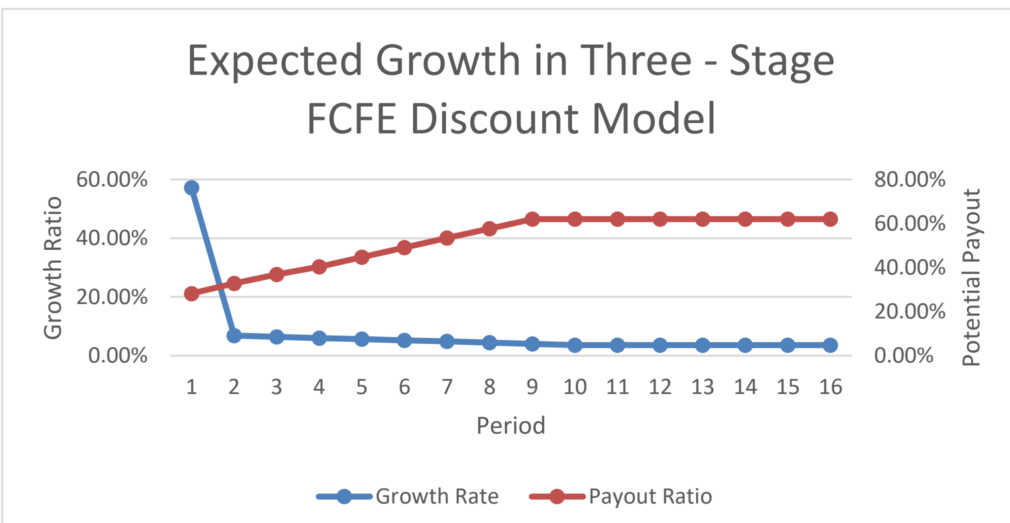
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		601.50%	-501.50%	***1.75***			**(30.24)**
	1	57.14%	71.77%	28.23%	***2.75***	0.78		0.78
	2	6.82%	67.19%	32.81%	2.94	0.96		0.96
Stage 1	3	6.38%	63.16%	36.84%	3.13	1.15		1.15
	4	6.00%	59.58%	40.42%	3.31	1.34		1.34
	5	5.66%	55.27%	44.73%	***3.50***	1.57		1.57
	6	5.25%	50.95%	49.05%	3.68	1.81		1.81
	7	4.84%	46.63%	53.37%	3.86	2.06		2.06
Stage 2	8	4.43%	42.32%	57.68%	4.03	2.33		2.33
	9	4.02%	38.00%	62.00%	4.20	2.60		2.60
	10	3.61%	38.00%	62.00%	4.35	2.69	81.07	83.76
Stage 3	11+	3.61%	38.00%	62.00%	4.50	*2.79*		
							K_e =	**13.75%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Fortis Inc	3.80%	GDP
Ticker	fts.to	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

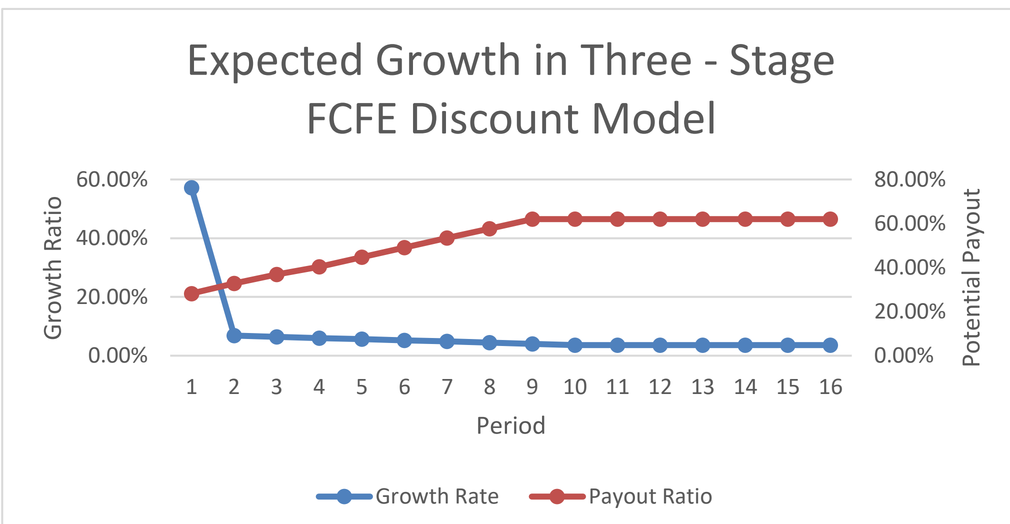
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		80.97%	19.03%	***2.60***			**(40.42)**
	1	7.69%	42.29%	57.71%	***2.80***	1.62		1.62
	2	4.02%	40.66%	59.34%	2.91	1.73		1.73
Stage 1	3	3.86%	39.15%	60.85%	3.03	1.84		1.84
	4	3.72%	37.74%	62.26%	3.14	1.95		1.95
	5	3.59%	37.80%	62.20%	***3.25***	2.02		2.02
	6	3.59%	37.85%	62.15%	3.37	2.09		2.09
	7	3.60%	37.90%	62.10%	3.49	2.17		2.17
Stage 2	8	3.60%	37.95%	62.05%	3.61	2.24		2.24
	9	3.61%	38.00%	62.00%	3.74	2.32		2.32
	10	3.61%	38.00%	62.00%	3.88	2.40	72.34	74.74
Stage 3	11+	3.61%	38.00%	62.00%	4.02	*2.49*		
							K_e =	**9.87%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Hawaiian Electric	3.80%	GDP
Ticker	he	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

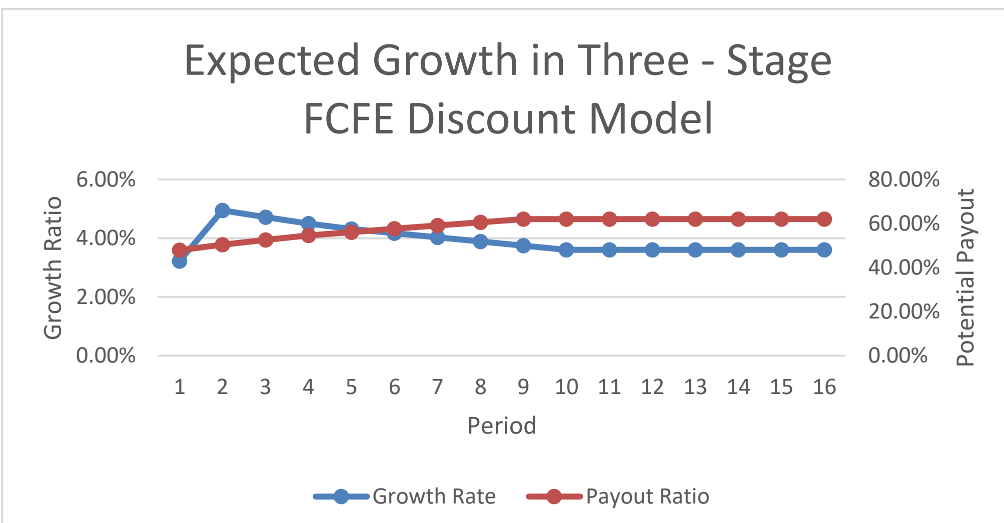
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		29.24%	70.76%	***1.80***			**(35.05)**
	1	2.78%	21.34%	78.66%	***1.85***	1.46		1.46
	2	2.03%	20.91%	79.09%	1.89	1.49		1.49
Stage 1	3	1.99%	20.51%	79.49%	1.93	1.53		1.53
	4	1.95%	20.11%	79.89%	1.96	1.57		1.57
	5	1.91%	23.69%	76.31%	***2.00***	1.53		1.53
	6	2.25%	27.27%	72.73%	2.05	1.49		1.49
	7	2.59%	30.85%	69.15%	2.10	1.45		1.45
Stage 2	8	2.93%	34.42%	65.58%	2.16	1.42		1.42
	9	3.27%	38.00%	62.00%	2.23	1.38		1.38
	10	3.61%	38.00%	62.00%	2.31	1.43	43.09	44.52
Stage 3	11+	3.61%	38.00%	62.00%	2.39	*1.48*		
							K_e =	**5.96%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Idacorp Inc	3.80%	GDP
Ticker	ida	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

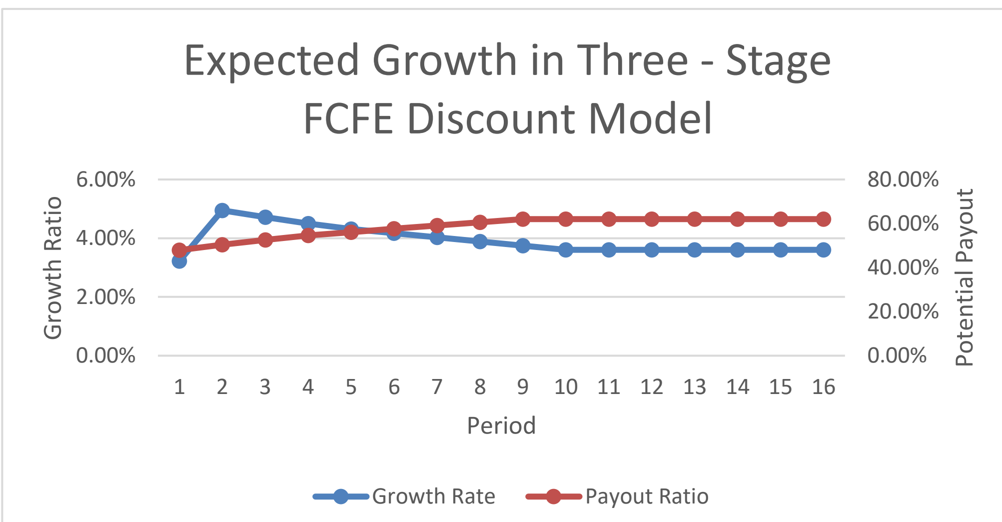
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		33.96%	66.04%	***4.65***			**(95.25)**
	1	3.23%	52.08%	47.92%	***4.80***	2.30		2.30
	2	4.95%	49.63%	50.37%	5.04	2.54		2.54
Stage 1	3	4.71%	47.39%	52.61%	5.28	2.78		2.78
	4	4.50%	45.35%	54.65%	5.51	3.01		3.01
	5	4.31%	43.88%	56.12%	***5.75***	3.23		3.23
	6	4.17%	42.41%	57.59%	5.99	3.45		3.45
	7	4.03%	40.94%	59.06%	6.23	3.68		3.68
Stage 2	8	3.89%	39.47%	60.53%	6.47	3.92		3.92
	9	3.75%	38.00%	62.00%	6.72	4.16		4.16
	10	3.61%	38.00%	62.00%	6.96	4.31	129.78	134.09
Stage 3	11+	3.61%	38.00%	62.00%	7.21	*4.47*		
							K_e =	**6.12%**



Three Stage Free Cash Flow to Equity Discount Model

Company	MGE Energy Inc	3.80%	GDP
Ticker	mgee	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

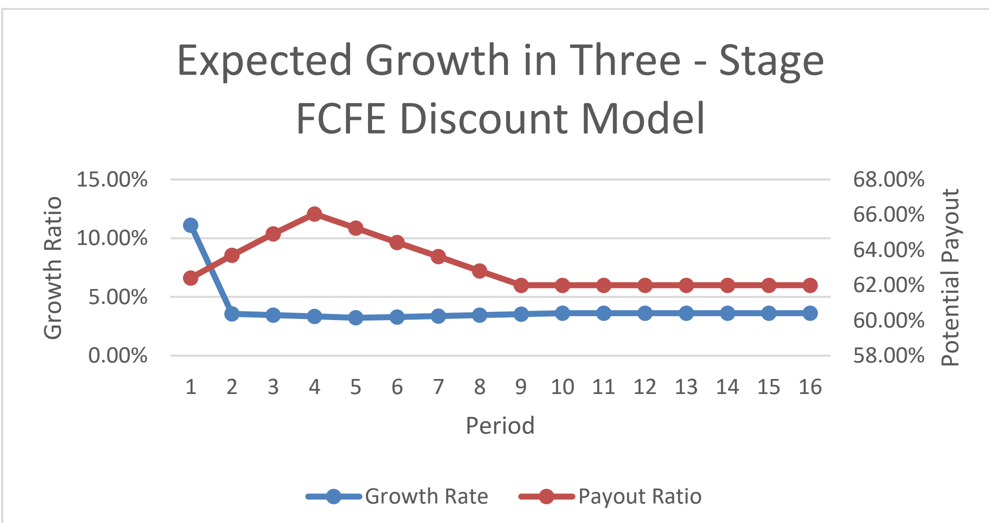
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		40.49%	59.51%	***2.60***			(69.63)
	1	3.85%	53.61%	46.39%	***2.70***	1.25		1.25
	2	5.09%	51.01%	48.99%	2.84	1.39		1.39
Stage 1	3	4.85%	48.65%	51.35%	2.98	1.53		1.53
	4	4.62%	46.50%	53.50%	3.11	1.67		1.67
	5	4.42%	44.80%	55.20%	***3.25***	1.79		1.79
	6	4.26%	43.10%	56.90%	3.39	1.93		1.93
	7	4.09%	41.40%	58.60%	3.53	2.07		2.07
Stage 2	8	3.93%	39.70%	60.30%	3.67	2.21		2.21
	9	3.77%	38.00%	62.00%	3.80	2.36		2.36
	10	3.61%	38.00%	62.00%	3.94	2.44	73.51	75.95
Stage 3	11+	3.61%	38.00%	62.00%	4.08	*2.53*		
							K_e =	**3.11%**



Three Stage Free Cash Flow to Equity Discount Model

Company	NorthWestern (	3.80%	GDP
Ticker	nwe	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

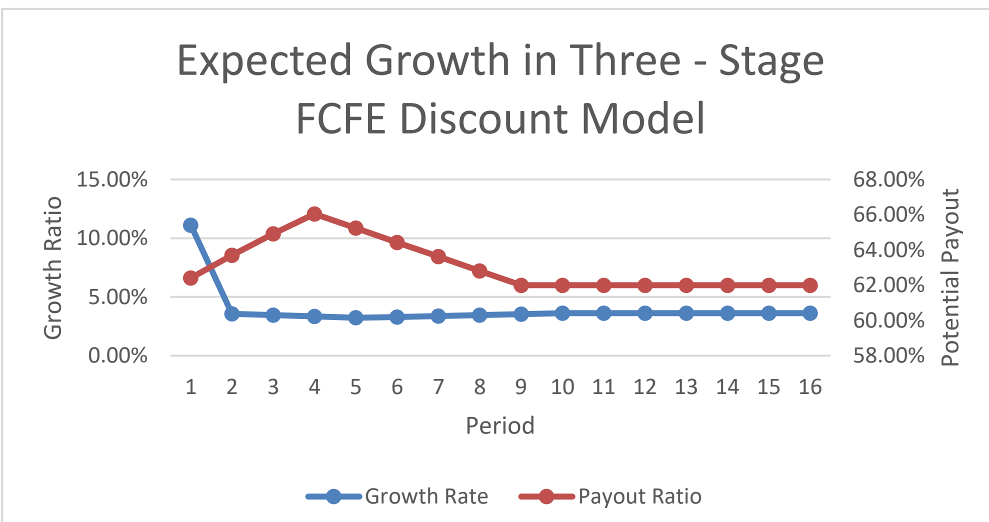
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		116.96%	-16.96%	*3.15*			(58.31)
	1	11.11%	37.59%	62.41%	*3.50*	2.18		2.18
	2	3.57%	36.30%	63.70%	3.63	2.31		2.31
Stage 1	3	3.45%	35.09%	64.91%	3.75	2.43		2.43
	4	3.33%	33.96%	66.04%	3.88	2.56		2.56
	5	3.23%	34.76%	65.24%	*4.00*	2.61		2.61
	6	3.30%	35.57%	64.43%	4.13	2.66		2.66
	7	3.38%	36.38%	63.62%	4.27	2.72		2.72
Stage 2	8	3.46%	37.19%	62.81%	4.42	2.78		2.78
	9	3.53%	38.00%	62.00%	4.58	2.84		2.84
	10	3.61%	38.00%	62.00%	4.74	2.94	88.41	91.35
Stage 3	11+	3.61%	38.00%	62.00%	4.91	*3.05*		
							K_e =	**7.95%**



Three Stage Free Cash Flow to Equity Discount Model

Company	OGE Energy Cor	3.80%	GDP
Ticker	oge	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

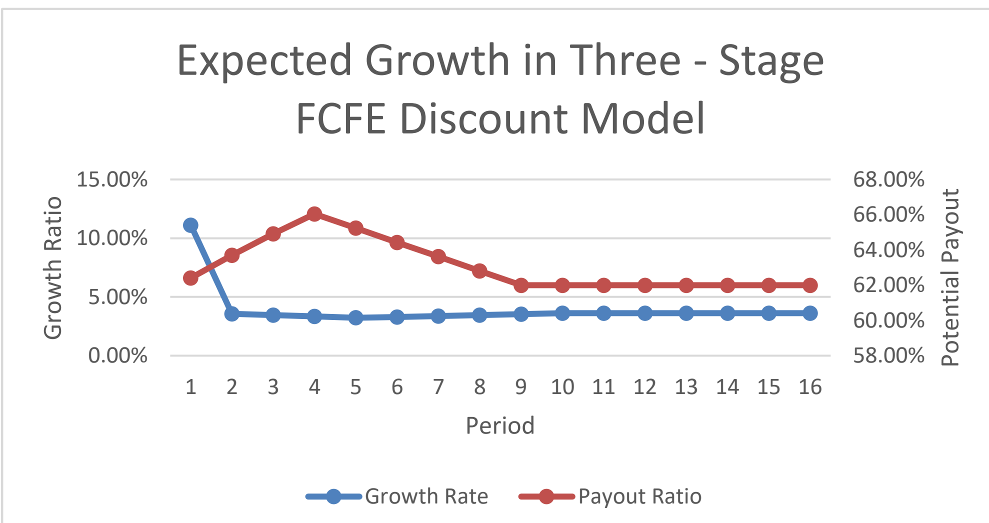
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		10.12%	89.88%	***2.08***			**(31.46)**
	1	0.96%	81.45%	18.55%	***2.10***	0.39		0.39
	2	7.74%	75.60%	24.40%	2.26	0.55		0.55
Stage 1	3	7.18%	70.54%	29.46%	2.43	0.71		0.71
	4	6.70%	66.11%	33.89%	2.59	0.88		0.88
	5	6.28%	60.49%	39.51%	***2.75***	1.09		1.09
	6	5.75%	54.86%	45.14%	2.91	1.31		1.31
	7	5.21%	49.24%	50.76%	3.06	1.55		1.55
Stage 2	8	4.68%	43.62%	56.38%	3.20	1.81		1.81
	9	4.14%	38.00%	62.00%	3.34	2.07		2.07
	10	3.61%	38.00%	62.00%	3.46	2.14	64.45	66.59
Stage 3	11+	3.61%	38.00%	62.00%	3.58	*2.22*		
							K_e =	**10.04%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Otter Tail Corp	3.80%	GDP
Ticker	ottr	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

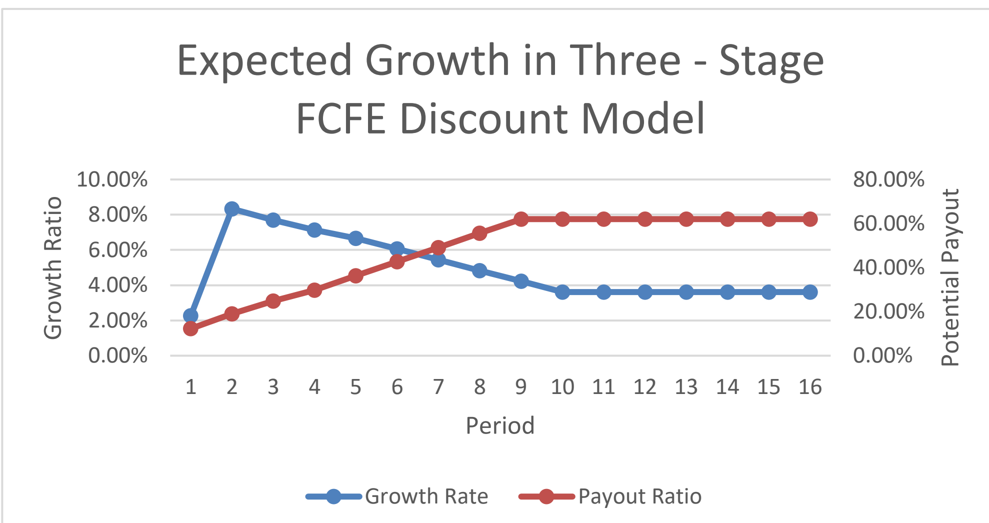
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		49.48%	50.52%	***2.34***			(42.61)
	1	4.70%	85.93%	14.07%	***2.45***	0.34		0.34
	2	8.16%	79.44%	20.56%	2.65	0.54		0.54
Stage 1	3	7.55%	73.87%	26.13%	2.85	0.74		0.74
	4	7.02%	69.03%	30.97%	3.05	0.94		0.94
	5	6.56%	62.82%	37.18%	***3.25***	1.21		1.21
	6	5.97%	56.62%	43.38%	3.44	1.49		1.49
	7	5.38%	50.41%	49.59%	3.63	1.80		1.80
Stage 2	8	4.79%	44.21%	55.79%	3.80	2.12		2.12
	9	4.20%	38.00%	62.00%	3.96	2.46		2.46
	10	3.61%	38.00%	62.00%	4.11	2.55	76.57	79.12
Stage 3	11+	3.61%	38.00%	62.00%	4.25	*2.64*		
							K_e =	**8.35%**



Three Stage Free Cash Flow to Equity Discount Model

Company	PNM Resources	3.80%	GDP
Ticker	pnm	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

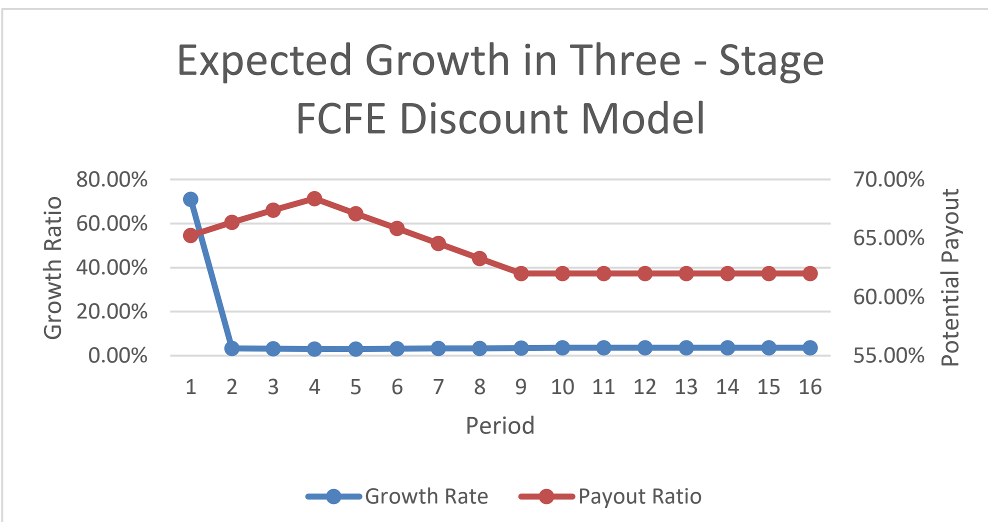
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		23.92%	76.08%	***2.20***			**(48.20)**
	1	2.27%	87.72%	12.28%	***2.25***	0.28		0.28
	2	8.33%	80.97%	19.03%	2.44	0.46		0.46
Stage 1	3	7.69%	75.19%	24.81%	2.63	0.65		0.65
	4	7.14%	70.18%	29.82%	2.81	0.84		0.84
	5	6.67%	63.74%	36.26%	***3.00***	1.09		1.09
	6	6.06%	57.31%	42.69%	3.18	1.36		1.36
	7	5.44%	50.87%	49.13%	3.35	1.65		1.65
Stage 2	8	4.83%	44.44%	55.56%	3.52	1.95		1.95
	9	4.22%	38.00%	62.00%	3.67	2.27		2.27
	10	3.61%	38.00%	62.00%	3.80	2.35	70.83	73.18
Stage 3	11+	3.61%	38.00%	62.00%	3.93	*2.44*		
							K_e =	**6.00%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Portland Gener	3.80%	GDP
Ticker	por	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

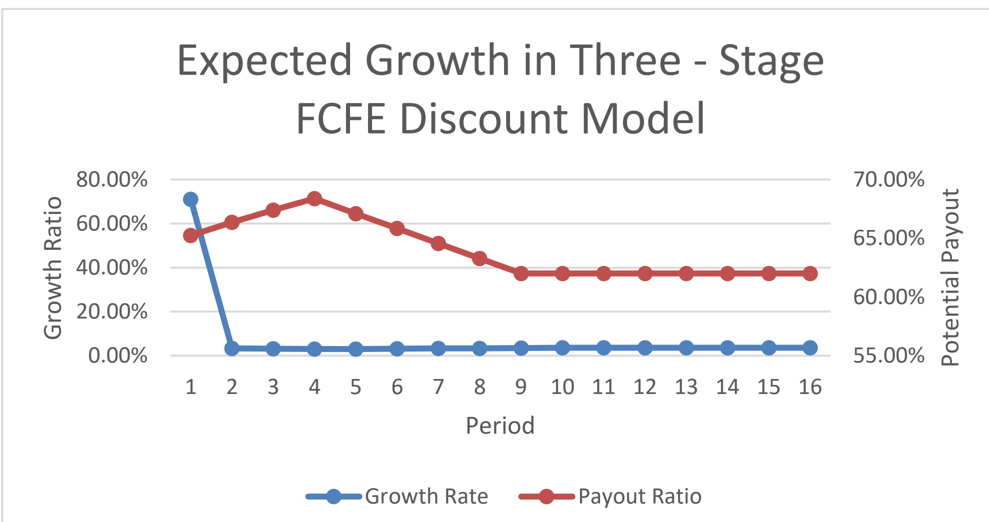
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		747.03%	-647.03%	*1.55*			(42.77)
	1	70.97%	34.76%	65.24%	*2.65*	1.73		1.73
	2	3.30%	33.65%	66.35%	2.74	1.82		1.82
Stage 1	3	3.20%	32.60%	67.40%	2.83	1.90		1.90
	4	3.10%	31.62%	68.38%	2.91	1.99		1.99
	5	3.00%	32.90%	67.10%	*3.00*	2.01		2.01
	6	3.13%	34.17%	65.83%	3.09	2.04		2.04
	7	3.25%	35.45%	64.55%	3.19	2.06		2.06
Stage 2	8	3.37%	36.72%	63.28%	3.30	2.09		2.09
	9	3.49%	38.00%	62.00%	3.42	2.12		2.12
	10	3.61%	38.00%	62.00%	3.54	2.20	66.03	68.22
Stage 3	11+	3.61%	38.00%	62.00%	3.67	*2.27*		
							K_e =	**8.30%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Public Service E	3.80%	GDP
Ticker	peg	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

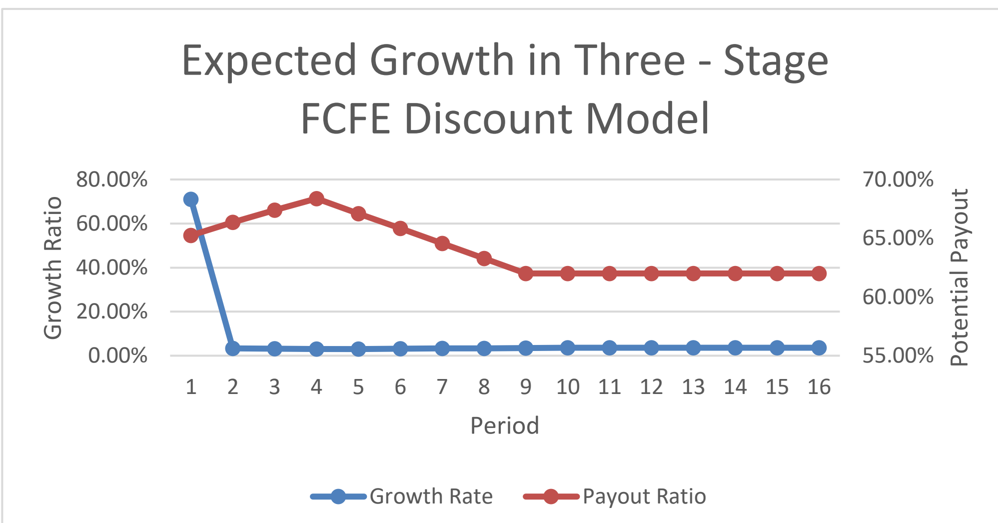
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		0.00%	100.00%	***3.40***			**(58.30)**
	1	0.00%	85.14%	14.86%	***3.40***	0.51		0.51
	2	8.09%	78.77%	21.23%	3.68	0.78		0.78
Stage 1	3	7.48%	73.28%	26.72%	3.95	1.06		1.06
	4	6.96%	68.51%	31.49%	4.23	1.33		1.33
	5	6.51%	62.41%	37.59%	***4.50***	1.69		1.69
	6	5.93%	56.31%	43.69%	4.77	2.08		2.08
	7	5.35%	50.21%	49.79%	5.02	2.50		2.50
Stage 2	8	4.77%	44.10%	55.90%	5.26	2.94		2.94
	9	4.19%	38.00%	62.00%	5.48	3.40		3.40
	10	3.61%	38.00%	62.00%	5.68	3.52	105.92	109.45
Stage 3	11+	3.61%	38.00%	62.00%	5.88	*3.65*		
							K_e =	**8.50%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Sempra Energy	3.80%	GDP
Ticker	sre	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

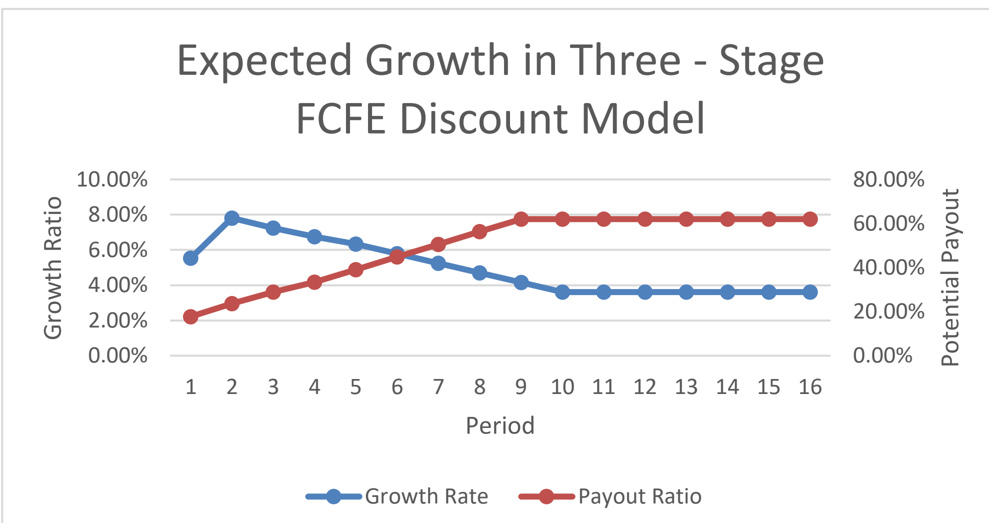
	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		170.28%	-70.28%	*6.80*			(127.41)
	1	16.18%	69.95%	30.05%	*7.90*	2.37		2.37
	2	6.65%	65.59%	34.41%	8.43	2.90		2.90
Stage 1	3	6.23%	61.75%	38.25%	8.95	3.42		3.42
	4	5.87%	58.33%	41.67%	9.48	3.95		3.95
	5	5.54%	54.26%	45.74%	*10.00*	4.57		4.57
	6	5.15%	50.20%	49.80%	10.52	5.24		5.24
	7	4.77%	46.13%	53.87%	11.02	5.93		5.93
Stage 2	8	4.38%	42.07%	57.93%	11.50	6.66		6.66
	9	4.00%	38.00%	62.00%	11.96	7.41		7.41
	10	3.61%	38.00%	62.00%	12.39	7.68	231.09	238.77
Stage 3	11+	3.61%	38.00%	62.00%	12.84	*7.96*		
							K_e =	**8.96%**



Three Stage Free Cash Flow to Equity Discount Model

Company	WEC Energy Gr	3.80%	GDP
Ticker	wec	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		58.33%	41.67%	***3.79***			**(91.30)**
Stage 1	1	5.54%	82.24%	17.76%	***4.00***	0.71		0.71
	2	7.81%	76.28%	23.72%	4.31	1.02		1.02
	3	7.25%	71.12%	28.88%	4.63	1.34		1.34
	4	6.76%	66.62%	33.38%	4.94	1.65		1.65
	5	6.33%	60.90%	39.10%	***5.25***	2.05		2.05
Stage 2	6	5.79%	55.17%	44.83%	5.55	2.49		2.49
	7	5.24%	49.45%	50.55%	5.84	2.95		2.95
	8	4.70%	43.72%	56.28%	6.12	3.44		3.44
	9	4.15%	38.00%	62.00%	6.37	3.95		3.95
	10	3.61%	38.00%	62.00%	6.60	4.09	123.16	127.25
Stage 3	11+	3.61%	38.00%	62.00%	6.84	*4.24*		
							K_e =	**5.17%**



Three Stage Free Cash Flow to Equity Discount Model

Company	Xcel Energy Inc	3.80%	GDP
Ticker	xel	18.0	Industry P/E
		62.0%	Target Dividend Payout Ratio
		9.5%	Target ROE

	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
Historic	0		56.39%	43.61%	***2.80***			**(66.67)**
	1	5.36%	49.06%	50.94%	***2.95***	1.50		1.50
	2	4.66%	46.88%	53.12%	3.09	1.64		1.64
Stage 1	3	4.45%	44.88%	55.12%	3.23	1.78		1.78
	4	4.26%	43.04%	56.96%	3.36	1.92		1.92
	5	4.09%	42.04%	57.96%	***3.50***	2.03		2.03
	6	3.99%	41.03%	58.97%	3.64	2.15		2.15
	7	3.90%	40.02%	59.98%	3.78	2.27		2.27
Stage 2	8	3.80%	39.01%	60.99%	3.93	2.39		2.39
	9	3.71%	38.00%	62.00%	4.07	2.52		2.52
	10	3.61%	38.00%	62.00%	4.22	2.62	78.66	81.28
Stage 3	11+	3.61%	38.00%	62.00%	4.37	*2.71*		
							K_e =	**4.52%**