

WIRELESS

EQUITY RATE		8.75%		
CAPITAL ASSET PRICING MODEL			PAGE	
CAPM Ex Ante	7.26%		6	
DIVIDEND GROWTH MODELS (Single Stage)				
Value Line, based on Dividends Growth	8.00%		7	
Value Line, based on Earnings Growth	9.00%		8	
Value Line, based on Return on Equity	9.75%		9	
FCFE GROWTH MODEL (Multi Stage)	11.00%		10	
		RANGE 7.2625% - 11%		
DEBT RATE		4.75%	11	
SECURED DEBT (LEASE) RATE		3.75%	11	
MARKET CAPITAL STRUCTURE				
Equity	62%	x 8.75%	= 5.43%	3
Debt	38%	x 4.75%	= 1.81%	3
Marginal Tax Rate	24%	= (1-.24)	x 1.81%	3
WEIGHTED AVERAGE COST OF CAPITAL		6.8%		

rounded

SUPPORT FOR GUIDELINE COMPANIES

WASHINGTON STATE DEPARTMENT OF REVENUE

2018 ASSESSMENT YEAR

WIRELESS

Capital Structure at Book Value

Company	Ticker	Beta	Fin'l Strength	Operting Margin	Trailing P/E Ratio	Div'd Yield	Common Stock	%	Preferred Stock	%	Long Term Debt	%	Total Debt & Equity
AT&T Inc	T	0.75	A++	n/a	12.1	5.21%	140,897,480,000	52.8%	-	0.0%	125,972,000,000	47.2%	266,869,480,000
Verizon	VZ	0.80	A++	n/a	13.0	4.53%	44,670,371,700	28.2%	-	0.0%	113,642,000,000	71.8%	158,312,371,700
Sprint Corp	S	1.20	C++	33.5%	nmf	0.00%	26,219,951,300	44.4%	-	0.0%	32,825,000,000	55.6%	59,044,951,300
US Cellular	USM	1.10	B+	15.0%	67.0	0.00%	3,676,678,320	69.4%	-	0.0%	1,622,000,000	30.6%	5,298,678,320
T-Mobile	TMUS	0.95	B+	26.2%	29.7	0.00%	22,428,735,000	43.3%	20,000,000	0.0%	29,297,000,000	56.6%	51,745,735,000
	Mean	0.96	B++	25%	30.5	1.95%	47,578,643,264	47.6%		0.0%	60,671,600,000	52.4%	
	Weighted Mean						237,893,216,320	44.0%	20,000,000	0.00%	303,358,000,000	56.0%	541,271,216,320
	Median	0.95			21.4	0.00%		44.4%		0.0%		55.6%	
	Std Dev	0.19				2.68%		15.0%		0.0%		15.0%	
	Coeff Var	0.20				137.49%		31.6%		2.236068		28.7%	
	Max	1.20				5.21%		69.4%		0.0%		71.8%	
	Min	0.75				0.00%		28.2%		0.0%		30.6%	
	Harmonic Mean	0.93						43.71%				48.34%	

Say **0.95**

**SUPPORT FOR CAPITAL STRUCTURE
MARKET VALUE**

WASHINGTON STATE DEPARTMENT OF REVENUE

2018 ASSESSMENT YEAR

WIRELESS

Capital Structure at Market Value

Company	Ticker	Stock Price	Common Shares	Common Stock	%	Preferred Stock	%	Long Term Debt	%	Total Debt & Equity
AT&T Inc	T	38.37	6,142,000,000	235,668,540,000	57.2%	-	0.0%	176,205,000,000	42.8%	411,873,540,000
Verizon	VZ	52.33	4,079,486,000	213,479,502,380	62.2%	-	0.0%	129,678,000,000	37.8%	343,157,502,380
Sprint Corp	S	5.89	4,003,046,000	23,577,940,940	44.6%	-	0.0%	29,268,000,000	55.4%	52,845,940,940
US Cellular	USM	37.63	85,128,000	3,203,366,640	66.0%	-	0.0%	1,652,000,000	34.0%	4,855,366,640
T-Mobile	TMUS	63.51	854,428,000	54,264,722,280	65.6%	20,000,000	0.024%	28,390,000,000	34.3%	82,674,722,280
			Mean		59.1%		0.0%		40.9%	
			Weighted Mean	530,194,072,240	59.2%	20,000,000	0.00%	365,193,000,000	40.8%	895,407,072,240
			Median		62.2%		0.00%		37.8%	
			Harmonic Mean		57.9%		3%		39.6%	
			Std Dev		8.8%		0.01%		8.9%	
			Coeff Var		15.0%		223.61%		21.7%	
			Max		66.0%		0.0%		55.4%	
			Min		44.6%		0.0%		34.0%	

Source:

Stock Price: Yahoo

Market Value Debt: Bond Analysis

Say

62%

0%

38%

SUPPORT FOR MARKET MULTIPLES

WASHINGTON STATE DEPARTMENT OF REVENUE

2018 ASSESSMENT YEAR

WIRELESS

Company	Ticker	Stock Price	Revenues	Multiple	Cash Flow	Multiple	Earnings	Multiple	Book Value	Multiple
AT&T Inc	T	38.37	26.15	1.5	7.04	5.5	3.05	12.6	22.94	1.7
Verizon	VZ	52.33	30.89	1.7	5.80	9.0	3.75	14.0	10.95	4.8
Sprint Corp	S	5.89	8.10	0.7	2.10	2.8	(0.05)		6.55	0.90
US Cellular	USM	37.63	45.69	0.82	7.80	4.8	0.58	64.9	43.19	0.9
T-Mobile	TMUS	63.51	47.25	1.3	9.13	7.0	2.14	29.7	26.25	2.42
		Mean		1.2		5.8		30.3		2.1
		Median		1.3		5.5		21.8		1.7
		Harmonic Mean		1.1		5.0		20.0		1.4
		Max		1.7		9.0		64.9		4.8
		Min		0.73		2.8		12.6		0.87
		Std Dev		0.4		2.3		24.3		1.6
		Coefficient of Variation		0.3		0.4		0.8		0.8
		Harmonic Mean		1.1		5.0		20.0		1.4
		Percentile .25		0.8		4.8		13.6		0.9
		Percentile .75		1.5		7.0		38.5		2.4
		Say		1.25		5.50				2.00

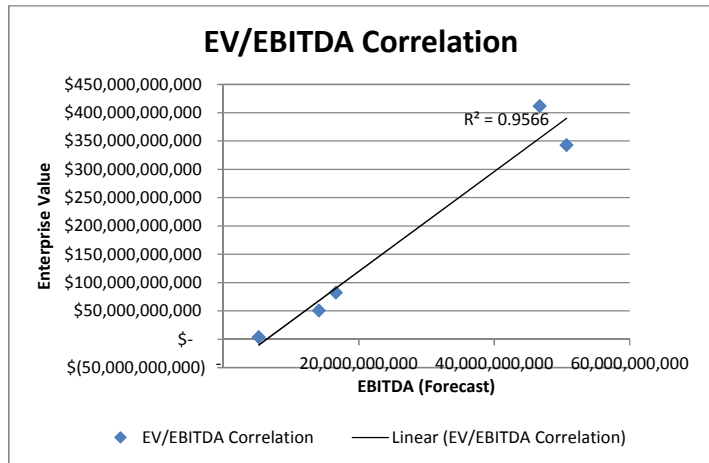
ENTERPRISE VALUE MULTIPLES

WASHINGTON STATE DEPARTMENT OF REVENUE

2018 ASSESSMENT YEAR

WIRELESS

Guideline Companies	Ticker	Enterprise Value	EBITDA	EV / EBITDA	One Year Cash Flow Rate Change VL	EBITDA	EV / EBITDA	Revenue	EV/Sales	Cash Flow	Debt Service	EV / CF
AT&T Inc	T	\$ 411,873,540,000	45,336,000,000	9.08	3.0%	46,688,352,273	8.82	161,534,600,000	2.55	44,529,500,000	8,369,737,500	7.79
Verizon	VZ	\$ 343,157,502,380	48,168,000,000	7.12	5.2%	50,659,448,276	6.77	129,319,706,200	2.65	24,705,000,000	6,159,705,000	11.12
Sprint Corp	S	\$ 51,186,940,940	12,880,000,000	3.97	9.5%	14,106,666,667	3.63	33,225,281,800	1.54	9,315,000,000	1,390,230,000	4.78
US Cellular	USM	\$ 4,105,366,640	5,170,000,000	0.79	1.3%	5,236,282,051	0.78	3,924,400,800	1.05	671,500,000	78,470,000	5.47
T-Mobile	TMUS	\$ 82,674,722,280	13,772,000,000	6.00	20.5%	16,592,771,084	4.98	43,575,828,000	1.90	9,185,000,000	1,348,525,000	7.85
	Mean						5.00		1.94			7.40
	Median						4.98		1.90			7.79
	Max						8.82					
	Min						0.78					
	Std Dev						3.06					
	Coefficient of Variation						0.61					
	Harmonic Mean						2.48		1.72			6.78
	Say						5.00		2.00			7.75



3.50 put in income direct excluding IPP
7.80 put in income direct including IPP

Forecast EV/EBITDA By Rank

Guideline Companies	EV/EBITDA forecast	
US Cellular	0.78	3.13 Low Average
Sprint Corp	3.63	3.63 Low Median
T-Mobile	4.98	3.50 Say
Verizon	6.77	7.80 Average
AT&T Inc	8.82	7.80 Median
		7.80 Say

SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT CAPITAL ASSET PRICING MODEL

WASHINGTON STATE DEPARTMENT OF REVENUE
2018 ASSESSMENT YEAR
WIRELESS

$$\text{Ex Ante} \\ \text{Ke} = \text{Rf} + \text{B} (\text{Rp})$$

Ke = Cost of Equity 7.26%

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Rm =	rate of return	7.50%
Rf =	risk free rate	2.75%
Rp =	risk premium	4.75%
B =	Beta	0.95

Rp = Risk Premium 4.75%

to above

Shannon Pratt and Roger Grabowski	3.5 - 6%	
Cost of Capital, Applications and Examples, Third Edition, 2008, Page 113		
Dr. Aswath Damodaran	5.08%	chart page 13
http://pages.stern.nyu.edu/~adamodar/ 2016 Implied Premium		
John Graham & Campbell Harvey	7.16%	10 year expected real return
Duke CFO magazine Global Business Outlook survey - U.S.	2.37%	Rf rate used in
4th Qtr 2016	6.78%	adjusted for Rf

Rf = Risk Free Rate 2.75%

to above

Value Line Investment Survey, Selected Yields January 5, 2018, page 2573
as of 12-27-17 US Treasury Securities year end data

5 year	2.19%
10 year	2.41%
30 year	2.75%
30 year Zero	2.87%

Federal Reserve Statistical Release (<http://www.federalreserve.gov/Releases/H15/Current/>)
as of 12-29-17 Treasury Constant Maturities

5 year	2.20%	
10 year	2.40%	
20 year	2.58%	
30 year	2.74%	
20 year TIPS	0.61%	1.97%
30 year TIPS	0.73%	2.01%

TIPS inflation indication

Inflation 2.00%

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Value Line Investment Survey, Economic Series January 5, 2018, page 1500

Consumer Price Index Annual Rate of Change 2020-2022 2.50%

Federal Reserve Bank of Philadelphia

The Livingston Survey, December 15, 2017 Table 3

Inflation median (measured by the CPI) over next 10 years 2.34%

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

Gross Domestic Product (GDP) 3.80%

Federal Reserve Projected Long Run Real GDP Growth

Median Projection Value From Dec 13, 2017 Report 1.80%

<http://www.federalreserve.gov/monetarypolicy/fomccalendars.htm>

Congressional Budget Office Real GDP Economic Projections

The Budget and Economic Outlook 2018-2028 2018-2022 Table D-1, pg 140

Average Percentage Change From Year To Year 2023-2028 2.18% *Delayed

<http://www.cbo.gov/publication/53651> 1.73%

Federal Reserve Bank of Philadelphia

The Livingston Survey, December 15, 2017 pg 4

Average Annual Real GDP Growth Rate for Next Ten Years 2.18%

<https://www.philadelphiafed.org/research-and-data/real-time-center/livings>

**SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
DIVIDEND GROWTH MODEL**

WASHINGTON STATE DEPARTMENT OF REVENUE

2018 ASSESSMENT YEAR

WIRELESS

Based on Dividend Growth

$$K_e = (D_1 / P_0) + G_D$$

Ke = Cost of Equity
 D1 = Expected Dividends
 P0 = Current Stock Price
 GD = Sustainable Growth -- Dividend
 assumption Sustainable growth can not exceed inflation plus real GDP

Company	Ticker	Stock Price (Po)	Expected Dividend (D1)	Dividend Yield (D1/Po)	Dividend Growth (GD) VL	Ke	Forecast Dividend Growth	Ke Forecast Growth	Sustainable Dividend Growth	Ke Sustainable Growth
AT&T Inc	T	38.37	2.00	5.21%	4.00%	9.21%	4.42% 2.10%	9.63%	3.80%	9.01%
Verizon	VZ	52.33	2.37	4.53%	2.00%	6.53%		6.63%	2.10%	6.63%
Sprint Corp	S	5.89	0.00		0.00%				3.80%	
US Cellular	USM	37.63	0.00		0.00%				3.80%	
T-Mobile	TMUS	63.51	0.00		0.00%				3.80%	
Mean				4.87%		7.87%				7.82%
Median				4.87%		7.87%				7.82%
Harmonic Mean				4.85%		7.64%				7.64%
Std Dev				0.48%		1.90%				1.68%
Coeff Var				9.92%		24.11%				21.52%
Max				5.21%		9.21%				9.01%
Min				4.53%		6.53%				6.63%

Source: Value Line Projections 14-16 to 20-22

8.00%

7.75%

Say

8.00%

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**SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT
DIVIDEND GROWTH MODEL**

WASHINGTON STATE DEPARTMENT OF REVENUE

2018 ASSESSMENT YEAR

WIRELESS

Based on Earnings Growth

$$K_e = (D_1 / P_0) + G$$

- Ke = Cost of Equity
- D1 = Expected Dividends
- P0 = Current Stock Price
- G = Sustainable Growth -- Earnings

assumption: Sustainable growth can not exceed inflation plus real GDP

Company	Ticker	Stock Price (Po)	Expected Earnings (D1)	Yield (D1/Po)	Earnings Growth (G) VL	Ke	Forecast Earnings Growth	Ke Forecast Growth	Sustainable Earnings Growth	Ke Sustainable Growth
AT&T Inc	T	38.37	3.45	8.99%	5.50%	14.49%	6.31%	15.31%	3.80%	12.79%
Verizon	VZ	52.33	4.50	8.60%	3.00%	11.60%	3.23%	11.83%	3.23%	11.83%
Sprint Corp	S	5.89	0.05	0.85%	0.00%				3.80%	
US Cellular	USM	37.63	0.60	1.59%	2.00%	3.59%	2.10%	3.70%	2.10%	3.70%
T-Mobile	TMUS	63.51	3.35	5.27%	25.50%	30.77%	48.45%	53.73%	3.80%	9.07%
				Mean		15.11%				9.35%
				Median		13.05%				10.45%
				Harmonic Mean		8.59%				7.36%
				Std Dev		11.41%				4.08%
				Coeff Var		75.50%				43.68%
				Max		30.77%				12.79%
				Min		3.59%				3.70%

Source: Value Line Projections 14-16 to 20-22

9.00%

7.50%

Say

9.00

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SUPPORT FOR YIELD CAPITALIZATION EQUITY COMPONENT DIVIDEND GROWTH MODEL

WASHINGTON STATE DEPARTMENT OF REVENUE

2018 ASSESSMENT YEAR

WIRELESS

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 % (plowback)
ROE = Return on Equity

Company	Ticker	Stock Price (Po)	Expected Dividend (D1)	Dividend Yield (D1/Po)	b (1-payout ratio)	ROE	Growth (G) (b*ROE)	Ke Dividends	Expected Earnings (E1)	Ke Earnings
AT&T Inc	T	38.37	2.00	5.21%	42.0%	8.99%	3.776%	8.99%	3.45	12.77%
Verizon	VZ	52.33	2.37	4.53%	47.0%	8.60%	4.042%	8.57%	4.50	12.64%
Sprint Corp	S	5.89	0.00		100.0%	0.85%	0.849%		0.05	
US Cellular	USM	37.63	0.00		100.0%	1.59%	1.594%		0.60	3.19%
T-Mobile	TMUS	63.51	0.00		98.0%	5.27%	5.169%		3.35	10.44%
Mean								8.78%		9.76%
Median								8.78%		11.54%
Harmonic Mean								8.77%		7.06%
Std Dev								0.30%		4.51%
Coeff Var								3.37%		46.20%
Max								8.99%		12.77%
Min								8.57%		3.19%
								8.75%		10.50%

Say

9.75%

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

Washington State Department of Revenue
2018 ASSESSMENT YEAR

Based on Earnings Growth

$$K_e = (FCFE / P) + G$$

K_e = Cost of Equity
 $FCFE$ = Free Cash Flow to Equity
 P = Current Price
 G = Sustainable Growth

Company	Ticker	Stock Price	Expected Earnings	P/E	Payout Ratio	ROE	K_e
AT&T Inc	T	38.37	3.45	11.12	58.00%	13.50%	14.59%
Verizon	VZ	52.33	4.50	11.63	53.00%	41.00%	13.88%
Sprint Corp	S	5.89	0.05	117.80	0.00%	0.70%	nmf
US Cellular	USM	37.63	0.60	62.72	0.00%	1.50%	6.23%
T-Mobile	TMUS	63.51	3.35	18.96	2.00%	11.00%	14.41%
Mean				44.45	22.60%	13.54%	12.28%
Harmonic Mean				19.76	#NUM!	2.19%	10.79%
Median				18.96	2.00%	11.00%	14.15%
Max				117.80	58.00%	41.00%	14.59%
Min				11.12	0.00%	0.70%	6.23%
Std Dev				46.24	30.10%	16.36%	4.05%
Coefficient of Variation				1.04	133.17%	120.81%	32.95%

Say

11.00%

SUPPORT FOR DEBT RATING AND DEBT YIELD RATE

WASHINGTON STATE DEPARTMENT OF REVENUE

2018 ASSESSMENT YEAR

WIRELESS

Company	Ticker	Mergent's Ratings	S&P Ratings	WAYTM	S&P YTM (avg)	Mergent's Ratings	S&P Ratings	Mergent's	S&P	
AT&T Inc	T	Baa1	BBB+	4.07%	4.01%	10	10	Aaa1	AAA+	1
Verizon	VZ	Baa1	BBB+	4.74%	3.68%	10	10	Aaa2	AAA	2
Sprint Corp	S	B1	B	6.86%	5.41%	16	17	Aaa3	AAA-	3
US Cellular	USM	Ba1	BB	6.70%	6.27%	13	14	Aa1	AA+	4
T-Mobile	TMUS	Ba2	BB+			14	13	Aa2	AA	5
Overall Average Debt Rating		Baa3	BB+	5.59%		12.6	12.8	Aa3	AA-	6

4.02%

All issues 20+ year maturities

Guideline Companies, All Ratings

4.59% 5.00%

bond analysis page 12

A1	A+	7
A2	A	8
A3	A-	9
Baa1	BBB+	10
Baa2	BBB	11
Baa3	BBB-	12
Ba1	BB+	13
Ba2	BB	14
Ba3	BB-	15
B1	B+	16
B2	B	17
B3	B-	18
Caa1	CCC+	19
Caa2	CCC	20

Mergent's Bond Record January 2018, page 249

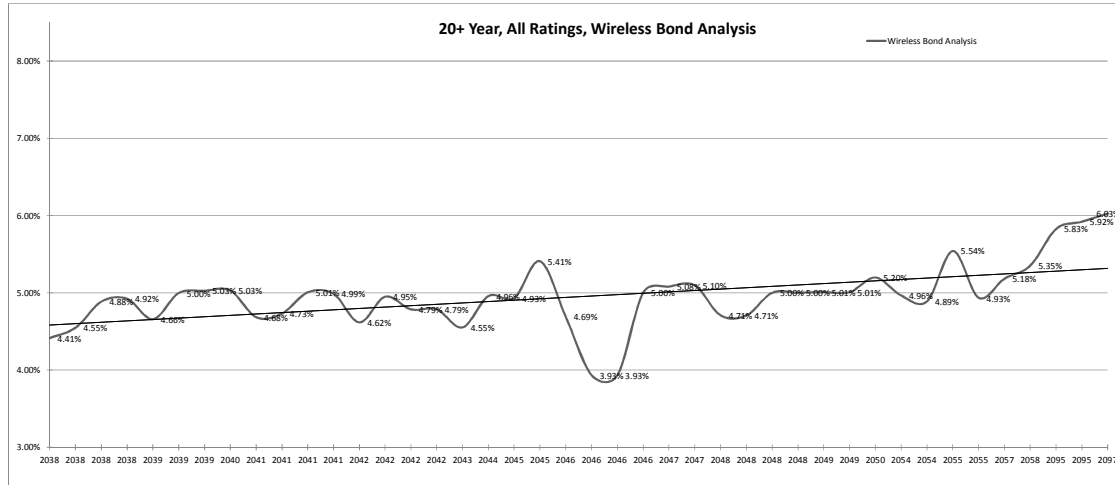
Corporate	Aaa	Aa	A	Baa
October	3.60%	3.75%	3.91%	4.32%
November	3.57%	3.67%	3.84%	4.27%
December	3.51%	3.61%	3.79%	4.22%
4th Qtr Average	3.56%	3.68%	3.85%	4.27%
Public Utilities	Aaa	Aa	A	Baa
October		3.74%	3.91%	4.26%
November		3.65%	3.83%	4.16%
December		3.62%	3.79%	4.14%
4th Qtr Average		3.67%	3.84%	4.19%
Industrials	Aaa	Aa	A	Baa
October	3.60%	3.74%	3.90%	4.37%
November	3.57%	3.68%	3.85%	4.37%
December	3.51%	3.60%	3.79%	4.31%
4th Qtr Average	3.56%	3.67%	3.85%	4.35%

Debt Yield Rate 4.75%

Cost of Secured Debt (Operating Lease) Rate 3.75%

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20+ Year, All Ratings, Wireless Bond Analysis



01/31/2017

Wireless Bond Analysis

Company	type	Call	coupon	maturity	Price 12/16	Issued / Book	current yield	yield to maturity	Weighted Ave Rating	Mkt Val	Mkt / Book	Embedded Rat Debt Service	WAYTM	WAYTM	S&P YTM		
Verizon Communications	Notes	z100	6.400	2038	125.63	1,750,000,000	5.09%	4.41%	0.02%	BBB+	\$ 2,198,525,000	125.63%	112,000,000	0.00022919	0.0477%	4.44	
Verizon Communications	Notes		6.900	2038	130.00	1,250,000,000	5.31%	4.55%	0.02%	BBB+	\$ 1,525,000,000	130.00%	86,250,000	0.00016869	0.0351%	4.59	
AT&T Inc	Global Note z100		6.300	2038	117.54	2,750,000,000	5.360%	4.88%	0.04%	BBB+	\$ 3,232,350,000	117.54%	173,250,000	0.00039867	0.0886%	4.9	
AT&T Inc	Global Note z100		6.400	2038	118.26	1,250,000,000	5.412%	4.92%	0.02%	BBB+	\$ 1,478,250,000	118.26%	80,000,000	0.00018260	0.0406%	4.94	
Verizon Communications	Notes		7.350	2039	135.08	1,000,000,000	5.44%	4.66%	0.01%	BBB+	\$ 1,350,800,000	135.08%	73,500,000	0.00013821	0.0288%	4.88	
Verizon Communications	Notes		8.950	2039	149.99	1,250,000,000	5.97%	5.00%	0.02%	BBB+	\$ 1,874,875,000	149.99%	111,875,000	0.00018538	0.0396%	4.81	
AT&T Inc	Global Notes		6.550	2039	119.24	2,250,000,000	5.493%	5.03%	0.03%	BBB+	\$ 2,682,900,000	119.24%	147,375,000	0.00033555	0.0745%	5.05	
AT&T Inc	Global Notes		6.000	2040	112.59	1,234,000,000	5.329%	5.03%	0.02%	BBB+	\$ 1,389,360,600	112.59%	74,040,000	0.00018416	0.0409%	5.05	
Verizon Communications	Notes		4.750	2041	100.91	750,000,000	4.71%	4.68%	0.01%	BBB+	\$ 756,825,000	100.91%	35,625,000	0.00010425	0.0217%	4.68	
Verizon Communications	Notes		6.000	2041	117.36	1,000,000,000	5.11%	4.73%	0.01%	BBB+	\$ 1,173,600,000	117.36%	60,000,000	0.00014037	0.0292%	4.73	
AT&T Inc	Fix Rt Sr Nt		6.375	2041	118.24	984,000,000	5.392%	5.01%	0.01%	BBB+	\$ 1,163,481,600	118.24%	62,730,000	0.00014618	0.0325%	5.03	
AT&T Inc	Fix Rt Nt		5.550	2041	107.52	2,000,000,000	5.182%	4.99%	0.03%	BBB+	\$ 2,150,400,000	107.52%	111,000,000	0.00029598	0.0657%	5	
Verizon Communications	Notes		3.850	2042	89.14	1,250,000,000	4.32%	4.62%	0.02%	BBB+	\$ 1,114,250,000	89.14%	48,125,000	0.00017128	0.0357%	4.59	
AT&T Inc	Fix Rt Sr Nt		5.150	2042	102.75	1,209,000,000	5.012%	4.95%	0.02%	BBB+	\$ 1,242,247,500	102.75%	62,263,500	0.00017759	0.0394%	4.95	
AT&T Inc	Fix Rt Nt		4.300	2042	93.24	1,834,000,000	4.612%	4.79%	0.03%	BBB+	\$ 1,710,021,600	93.24%	78,862,000	0.00026046	0.0579%	4.76	
AT&T Inc	FR partially		4.300	2042	93.24	1,955,000,000	4.612%	4.79%	0.03%	BBB+	\$ 1,822,942,000	93.24%	84,065,000	0.00027784	0.0617%	4.76	
Verizon Communications	Fix Rt Nt		6.550	2043	129.15	15,000,000,000	5.07%	4.55%	0.20%	BBB+	\$ 19,372,500,000	129.15%	982,500,000	0.00026255	0.4221%	4.61	
AT&T Inc	Fix Rt Nt		4.800	2044	97.75	2,500,000,000	4.91%	4.96%	0.04%	BBB+	\$ 2,443,750,000	97.75%	120,000,000	0.00036781	0.0817%	4.91	
AT&T Inc	Fix Rt Nt		4.350	2045	91.49	3,044,000,000	4.75%	4.93%	0.04%	BBB+	\$ 2,784,955,600	91.49%	132,414,000	0.00044558	0.0990%	4.93	
Bell South	Telecommunications	deb	NC	5.850	2045	106.15	300,000,000	5.51%	5.41%	0.00%	BBB+	\$ 318,450,000	106.15%	17,550,000	0.00004615	0.0107%	5.42
Verizon Communications	Fix Rt Nt		4.125	2046	91.39	1,500,000,000	4.51%	4.69%	0.02%	NR	\$ 1,370,850,000	91.39%	61,875,000	0.00020872	0.0435%	4.67	
Verizon Communications	Fix Rt Nt		4.862	2046	115.43	4,499,000,000	4.21%	3.93%	0.05%	NR	\$ 5,193,196,700	115.43%	218,741,300	0.00052524	0.1094%	3.98	
Verizon Communications	Notes		4.862	2046	115.43	4,500,000,000	4.21%	3.93%	0.05%	NR	\$ 5,194,350,000	115.43%	218,790,000	0.00052536	0.1095%	3.98	
AT&T Inc	Fix Rt Nt		4.750	2046	96.27	3,500,000,000	4.93%	5.00%	0.05%	BBB+	\$ 3,369,450,000	96.27%	165,250,000	0.00051963	0.1154%	5	
AT&T Inc	Fix Rt Gbl Nt		5.450	2047	105.52	2,000,000,000	5.16%	5.08%	0.03%	BBB+	\$ 2,110,400,000	105.52%	109,000,000	0.00030149	0.0670%	5.07	
AT&T Inc	Fix Rt Sr Nt		5.650	2047	108.24	1,500,000,000	5.22%	5.10%	0.02%	BBB+	\$ 1,623,600,000	108.24%	84,750,000	0.00022884	0.0504%	5.1	
Verizon Communications	Sr Notes		4.522	2048	97.08	5,000,000,000	4.66%	4.71%	0.07%	NR	\$ 4,854,000,000	97.08%	226,100,000	0.00069848	0.1455%	4.71	
Verizon Communications	Notes		4.522	2048	97.08	5,000,000,000	4.66%	4.71%	0.07%	BBB+	\$ 4,854,000,000	97.08%	226,100,000	0.00069848	0.1455%	4.71	
AT&T Inc	Fix Rt Sr Nt		4.500	2048	92.37	4,498,000,000	4.87%	4.87%	0.07%	NR	\$ 4,154,802,600	92.37%	202,410,000	0.00066746	0.1483%	5	
AT&T Inc	FR Global Notes		4.500	2048	92.37	4,500,000,000	4.87%	5.00%	0.07%	BBB+	\$ 4,156,650,000	92.37%	202,500,000	0.00066776	0.1483%	5	
AT&T Inc	FR Global Notes		4.550	2049	92.92	2,494,000,000	4.90%	5.01%	0.04%	NR	\$ 2,317,424,800	92.92%	113,477,000	0.00037065	0.0823%	5	
AT&T Inc	FR Global Notes		4.550	2049	92.92	2,500,000,000	4.90%	5.01%	0.04%	BBB+	\$ 2,323,000,000	92.92%	113,750,000	0.00037154	0.0825%	5	
AT&T Inc	FR Global Notes		5.150	2050	99.27	5,000,000,000	5.19%	5.20%	0.08%	NR	\$ 4,963,500,000	99.27%	257,500,000	0.00077127	0.1713%	5.2	
Verizon Communications	Fix Rt Sr Nt		5.012	2054	100.79	5,474,000,000	4.97%	4.96%	0.08%	NR	\$ 5,517,244,600	100.79%	274,356,800	0.00080647	0.1680%	4.97	
Verizon Communications	Fix Rt Nt		5.012	2054	102.05	5,500,000,000	4.91%	4.89%	0.08%	NR	\$ 5,612,750,000	102.05%	275,660,000	0.00079806	0.1663%	4.89	
Verizon Communications	Notes		4.672	2055	86.51	5,500,000,000	5.40%	5.54%	0.09%	BBB+	\$ 4,758,050,000	86.51%	256,960,000	0.00090442	0.1884%	4.93	
Verizon Communications	Fix Rt Notes		4.672	2055	95.59	5,500,000,000	4.89%	4.93%	0.08%	NR	\$ 5,257,450,000	95.59%	256,960,000	0.00080552	0.1678%	4.93	
AT&T Inc	FR Global Notes		5.700	2057	108.57	1,000,000,000	5.25%	5.18%	0.02%	BBB+	\$ 1,085,700,000	108.57%	57,000,000	0.00015379	0.0342%	5.17	
AT&T Inc	FR Global Notes		5.300	2058	99.16	2,500,000,000	5.34%	5.35%	0.04%	NR	\$ 2,478,000,000	99.16%	132,500,000	0.00039705	0.0882%	5.34	
Bell South	Telecommunications	deb	NC	6.650	2095	113.96	500,000,000	5.84%	5.83%	0.01%	\$	\$ 569,800,000	113.96%	33,250,000	0.00008645	0.0192%	flat
Bell South	Telecommunications	deb	NC	7.000	2095	118.02	500,000,000	5.93%	5.93%	0.01%	BBB+	\$ 590,100,000	118.02%	35,000,000	0.00008785	0.0195%	5.93
Bell South Capital Funding	deb	Z100	7.120	2097	117.95	500,000,000	6.04%	6.03%	0.01%	BBB+	\$ 589,750,000	117.95%	35,600,000	0.00008944	0.0199%	6.03	

Total							118,025,000,000				Total	\$ 124,830,451,600	105.77%	6.20% \$	6,211,954,700 \$	0.010605942	0.0867%	4.91
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Source: Standard & Poor's Bond Guide, January 2018, 2017 Yr End Prices

Embedded debt rate	5.263%
Weighted average yield to maturity	1.6966%
Debt service / Market value	4.9763%
S&P YTM	4.91%

SAY

DATA INPUT

WASHINGTON STATE DEPARTMENT OF REVENUE

2018 ASSESSMENT YEAR

WIRELESS

Data entered on this page will flow to the applicable worksheets.

				Current Year					Current Year						
Guideline Companies		Stock Price	Beta	Revenues	Cash Flow	Earnings	Dividends	Bk Value	Common	Long-Term Debt	Capital Spending per share	Trailing P/E Ratio	Average Annual Dividend Yield	Operating Margin	Income Tax Rate
Name	Ticker	(adj YE Close)		Per Share	Per Share	Per Share	Per Share	Stock	Shares		per share	VL	VL	VL	VL
AT&T Inc	T	\$38.37	0.75	\$ 26.15	\$ 7.04	\$ 3.05	\$ 1.96	\$ 22.94	6,142,000	\$ 125,972,000,000	\$ 3.51	12.10	5.50	n/a	9.5%
Verizon	VZ	\$52.33	0.80	\$ 30.89	\$ 5.80	\$ 3.75	\$ 2.33	\$ 10.95	4,079,486	\$ 113,642,000,000	\$ 4.23	13.00	4.80	n/a	34.0%
Sprint Corp	S	\$5.89	1.20	\$ 8.10	\$ 2.10	\$ (0.05)	\$ -	\$ 6.55	4,003,046	\$ 32,825,000,000	\$ 1.35	nmf	n/a	33.5%	nmf
US Cellular	USM	\$37.63	1.10	\$ 45.69	\$ 7.80	\$ 0.58	\$ -	\$ 43.19	85,128	\$ 1,622,000,000	\$ 5.46	67.00	n/a	15.0%	38.0%
T-Mobile	TMUS	\$63.51	0.95	\$ 47.25	\$ 9.13	\$ 2.14	\$ -	\$ 26.25	854,428	\$ 29,297,000,000	\$ 6.09	29.70	n/a	26.2%	35.1%

Value Line March 16, 2018 Yahoo value Line Value Line Value Line Value Line Value Line Value Line Value Line Value Line Value Line Value Line 12.550

The harmonic mean is the preferable method for averaging multiples, such as the price/earning ratio, in which price is in the numerator. If these ratios are averaged using an arithmetic mean (a common error), high data points are given greater weights than low data points.

The harmonic mean, on the other hand, gives equal weight to each data point

Note:

Value Line figures are all values in US dollars.

Forecast % Change

% Return on Shareholders' Equity	Projected (Next Year)				Projected (Next Year)							Forecast % Change				
	Revenues	Cash Flow	Earnings	Dividends	Bk Value	Common Shares	Capital Spending per share	% Return on Shareholders' Equity	% Retained to Common Equity	All Dividends to Net Profits	Market to Book	Dividends 2018-2022	Earnings 2018-2022	Cash Flow 2018-2022	Revenue 2018-2022	Income 2018-2022
V L	VL	VL	VL	VL	VL	VL	VL	VL	VL	VL	Calc Debt	VL	VL	VL	VL	M*
13.4%	\$ 26.30	\$ 7.25	\$ 3.45	\$ 2.00	25.55	6,142,000	3.60	13.5%	5.5%	58.0%	106.8%	4.00	5.50	2.50	1.50	\$ 20,949,000,000
nmf	\$ 31.70	\$ 6.10	\$ 4.50	\$ 2.37	11.00	4,050,000	4.30	41.0%	48.0%	53.0%	111.7%	2.00	3.00	nmf	2.00	\$ 27,414,000,000
nmf	\$ 8.30	\$ 2.30	\$ 0.05	\$ -	6.60	4,050,000	1.75	0.7%	0.7%	0.0%	87.0%	0.00	0.00	11.00	1.50	\$ 1,830,000,000
1.0%	\$ 46.10	\$ 7.90	\$ 0.60	\$ -	43.50	85,000	5.50	1.5%	1.5%	0.0%	100.6%	0.00	2.00	0.00	2.50	\$ (304,000,000)
8.5%	\$ 51.00	\$11.00	\$ 3.35	\$ -	31.75	835,000	6.10	11.0%	10.5%	2.0%	106.9%	0.00	25.50	9.50	4.00	\$ 4,888,000,000

ave 13.5%
 med 11.0%
 har mean 2%

7.6%

M* long term debt should be lower than 10k fair value debt make sure to check that

Balance Sheet				Cash Flow	Fair Value	Carrying Value	Current Maturity	Balance Sheet	ROE	All Div'ds to Net Prof
Current Assets	PP & E Gross	Current Liabilities	Long Term Debt	Depreciation & Amortization	Debt	Debt	Rent expense	Intangibles (excl. Goodwill)	5 Yr	5 yr
M*	M*	M*	M*	M*	10-K	10-k	10-K	M*	VL	VL
\$ 79,146,000,000	\$ 313,499,000,000	\$ 81,389,000,000	\$ 125,972,000,000	\$ 24,387,000,000	\$ 176,205,000,000	\$ 164,975,000,000	\$ 4,953,000,000	\$ 114,276,000,000	13.5%	61%
\$ 29,913,000,000	\$ 246,498,000,000	\$ 33,037,000,000	\$ 113,642,000,000	\$ 16,954,000,000	\$ 129,678,000,000	\$ 116,075,000,000	\$ 3,800,000,000	\$ 98,664,000,000	43.0%	51%
\$ 14,117,000,000	\$ 33,712,000,000	\$ 12,458,000,000	\$ 35,878,000,000	\$ 8,150,000,000	\$ 29,268,000,000	\$ 33,645,000,000	\$ 2,900,000,000	\$ 43,905,000,000	5.0%	
\$ 1,483,000,000	\$ 7,628,000,000	\$ 733,000,000	\$ 1,622,000,000	\$ 5,308,000,000	\$ 1,652,000,000	\$ 1,642,000,000	\$ 166,000,000	\$ 2,223,000,000	3.5%	
\$ 8,915,000,000	\$ 49,497,000,000	\$ 11,515,000,000	\$ 26,707,000,000	\$ 5,984,000,000	\$ 28,390,000,000	\$ 26,555,000,000	\$ 2,900,000,000	\$ 35,583,000,000	8.5%	

ave 14.7% 56.0%
harmean 7.1% 55.6%
med 8.5% 56.0%

SUPPORT FOR DIRECT CAPITALIZATION EQUITY COMPONENT

WASHINGTON STATE DEPARTMENT OF REVENUE

2018 ASSESSMENT YEAR

WIRELESS

Company	Ticker	Stock Price	2017		2018		2017		2018	
			Actual Earnings Ratio (EPS/P)	Projected Earnings Ratio (PEPS/P)	Cash Flow Ratio (CF/P)	Projected Cash Flow Ratio (PCF/P)				
AT&T Inc	T	38.37	3.05	7.95%	3.45	8.99%	7.04	18.35%	7.25	18.89%
Verizon	VZ	52.33	3.75	7.17%	4.50	8.60%	5.80	11.08%	6.10	11.66%
Sprint Corp	S	5.89	(0.05)		0.05	0.85%	2.10	35.65%	2.30	39.05%
US Cellular	USM	37.63	0.58	1.54%	0.60	1.59%	7.80	20.73%	7.90	20.99%
T-Mobile	TMUS	63.51	2.14	3.37%	3.35	5.27%	9.13	14.38%	11.00	17.32%
		Mean		5.01%		5.06%		20.04%		21.58%
		Median		5.27%		5.27%		18.35%		18.89%
		Max		7.95%		8.99%		35.65%		39.05%
		Min		1.54%		0.85%		11.08%		11.66%
		stdev		3.06%		3.80%		9.48%		10.36%
		cov		61.03%		75.08%		47.31%		48.00%
		harmean		3.30%		2.25%		17.21%		18.54%
		Say		5.25%		5.50%		19.00%		19.00%

Source:

Actual earnings: Value Line

Estimated Earnings: Value Line

Actual Cash Flow: Value Line

Estimated Cash Flow: Value Line

IMPLIED PREMIUMS FOR US MARKET

Updated January 5, 2018.

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

Year	Earnings Yield	Dividend Yield	S&P 500	Earnings*	Dividends*	Change in Earnings	Change in Dividend	T.Bill Rate	T.Bond Rate	Bond-Bill	Boothed Growth	Implied Premium (DDM)	† Growth Est.	Implied Premium (FCFE)	ERP/Riskfree Rate
1960	5.34%	3.41%	58.11	3.10	1.98			0.0266	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%	1.24
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%	0.92
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%	0.82
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%	0.79
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%	0.71
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%	0.79
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%	0.56
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%	0.49
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%	0.47
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%	0.52
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%	0.52
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%	0.42
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%	0.62
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%	0.76
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%	0.53
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%	0.67
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%	0.76
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%	0.63
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%	0.62
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%	0.40
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%	0.41
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%	0.47
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%	0.37
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%	0.44
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%	0.43
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%	0.50
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%	0.45
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%		3.77%	0.41
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%	0.44
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%	0.48
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%	0.52
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%	0.53
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%	0.55
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%	0.45
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%	0.59
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%	0.50
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%	0.48
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%	0.49
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%	0.32
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%	0.56
2001	3.85%	1.37%	1148.09	38.85	15.74	-30.79%	-3.24%	1.80%	5.05%	3.25%	3.56%	1.73%	10.30%	3.62%	0.72
2002	5.23%	1.83%	879.82	46.04	16.08	18.51%	2.15%	1.20%	3.81%	2.61%	3.57%	2.29%	8.00%	4.10%	1.08
2003	4.87%	1.61%	1111.91	54.69	17.88	18.79%	11.19%	1.00%	4.25%	3.25%	5.35%	2.12%	11.00%	3.69%	0.87
2004	5.58%	1.60%	1211.92	67.68	19.407	23.75%	8.54%	2.18%	4.22%	2.04%	4.90%	2.02%	8.50%	3.65%	0.86
2005	5.47%	1.79%	1248.29	76.45	22.38	12.96%	15.32%	4.31%	4.39%	0.08%	6.16%	2.20%	8.00%	4.08%	0.93
2006	6.18%	1.77%	1418.3	87.72	25.05	14.74%	11.93%	4.88%	4.70%	-0.18%	5.93%	1.97%	12.50%	4.16%	0.89
2007	5.62%	1.89%	1468.36	82.54	27.73	-5.91%	10.70%	3.31%	4.02%	0.71%	5.03%	2.06%	5.00%	4.37%	1.09
2008	7.24%	3.11%	903.25	65.39	28.05	-20.78%	1.15%	1.59%	2.21%	0.62%	2.11%	4.05%	4.00%	6.43%	2.91
2009	5.35%	2.00%	1115.10	59.65	22.31	-8.78%	-20.46%	0.14%	3.84%	3.70%	0.28%	2.60%	7.20%	4.36%	1.14
2010	6.65%	1.84%	1257.64	83.66	23.12	40.25%	3.63%	0.13%	3.29%	3.16%	3.33%	2.24%	6.95%	5.20%	1.58
2011	7.72%	2.07%	1257.60	97.05	26.02	16.01%	12.54%	0.03%	1.88%	1.85%	2.75%	2.71%	7.18%	6.01%	3.20
2012	7.18%	2.13%	1426.19	102.47	30.44	5.58%	16.99%	0.05%	1.76%	1.71%	2.93%	2.47%	5.27%	5.78%	3.28
2013	5.81%	1.96%	1848.36	107.45	36.28	4.86%	19.19%	0.07%	3.04%	2.97%	5.01%	2.03%	4.28%	4.96%	1.63
2014	5.57%	1.87%	2058.90	114.74	38.57	6.78%	6.31%	0.05%	2.17%	2.12%	2.55%	2.24%	5.58%	5.78%	2.66
2015	5.20%	2.11%	2043.94	106.32	43.16	-5.92%	9.43%	0.21%	2.27%	2.06%	2.96%	2.46%	5.51%	6.12%	2.70

2016	4.86%	2.01%	2238.83	108.86	45.03	2.39%	4.33%	0.51%	2.45%	1.94%	2.64%	2.41%	5.54%	5.69%	2.32
2017	4.67%	1.86%	2673.61	124.94	49.73	14.77%	10.44%	1.39%	2.41%	1.02%	3.22%	2.36%	7.05%	5.08%	2.11

2017 Multi Stage Earnings Growth Model

Wireless Industry

3.80% GDP

21.4 Median Trailing Industry P/E

56.0% Average Target Dividend Payout Ratio (All dividends to net profit)

8.5% Average Target ROE

AT&T

T	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
	0		154.29%	-54.29%	3.05		stock price =	-38.37
	1	13.11%	42.63%	57.37%	3.45	1.98		1.98
	2	3.62%	41.14%	58.86%	3.58	2.10		2.10
	3	3.50%	39.75%	60.25%	3.70	2.23		2.23
	4	3.38%	38.45%	61.55%	3.83	2.35		2.35
	5	3.27%	39.70%	60.30%	3.95	2.38		2.38
	6	3.37%	40.95%	59.05%	4.08	2.41		2.41
	7	3.48%	42.20%	57.80%	4.23	2.44		2.44
	8	3.59%	43.45%	56.55%	4.38	2.48		2.48
	9	3.69%	44.71%	55.29%	4.54	2.51		2.51
	10	3.80%	44.71%	55.29%	4.71	2.60	104.40	107.01
	11+	3.80%	44.71%	55.29%	4.89	2.70		

Value Line Earnings Growth Rate $K_e = 14.59\%$

Verizon

VZ	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
	0		235.29%	-135.29%	3.75		stock price =	-52.33
	1	20.00%	29.41%	70.59%	4.50	3.18		3.18
	2	2.50%	28.69%	71.31%	4.61	3.29		3.29
	3	2.44%	28.01%	71.99%	4.73	3.40		3.40
	4	2.38%	27.36%	72.64%	4.84	3.51		3.51
	5	2.33%	30.83%	69.17%	4.95	3.42		3.42
	6	2.62%	34.30%	65.70%	5.08	3.34		3.34
	7	2.92%	37.77%	62.23%	5.23	3.25		3.25
	8	3.21%	41.24%	58.76%	5.40	3.17		3.17
	9	3.51%	44.71%	55.29%	5.58	3.09		3.09
	10	3.80%	44.71%	55.29%	5.80	3.21	128.47	131.67
	11+	3.80%	44.71%	55.29%	6.02	3.33		

Value Line Earnings Growth Rate $K_e = 13.88\%$

Sprint

S	Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
	0		-2352.94%	2452.94%	-0.05		stock price =	-5.89
	1	-200.00%	1764.71%	-1664.71%	0.05	-0.83		-0.83
	2	150.00%	7.06%	92.94%	0.13	0.12		0.12
	3	60.00%	4.41%	95.59%	0.20	0.19		0.19
	4	37.50%	3.21%	96.79%	0.28	0.27		0.27
	5	27.27%	2.66%	97.34%	0.35	0.34		0.34
	6	22.58%	2.10%	97.90%	0.43	0.42		0.42
	7	17.88%	1.55%	98.45%	0.51	0.50		0.50
	8	13.19%	1.00%	99.00%	0.57	0.57		0.57
	9	8.49%	44.71%	55.29%	0.62	0.34		0.34
	10	3.80%	44.71%	55.29%	0.64	0.36	14.29	14.64
	11+	3.80%	44.71%	55.29%	0.67	0.37		

Value Line Earnings Growth Rate $K_e = \text{nmf}$

US Cellular
USM

Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
0		0.41%	99.59%	0.58		stock price =	-37.63
1	3.45%	4.41%	95.59%	0.60	0.57		0.57
2	37.50%	3.21%	96.79%	0.83	0.80		0.80
3	27.27%	2.52%	97.48%	1.05	1.02		1.02
4	21.43%	2.08%	97.92%	1.28	1.25		1.25
5	17.65%	1.75%	98.25%	1.50	1.47		1.47
6	14.88%	1.42%	98.58%	1.72	1.70		1.70
7	12.11%	1.10%	98.90%	1.93	1.91		1.91
8	9.34%	0.77%	99.23%	2.11	2.10		2.10
9	6.57%	44.71%	55.29%	2.25	1.24		1.24
10	3.80%	44.71%	55.29%	2.34	1.29	51.78	53.07
11+	3.80%	44.71%	55.29%	2.43	1.34		

Value Line Earnings Growth Rate Ke = 6.23%

T-Mobile
TMUS

Year	Growth Rate	Reinvestment Rate	Payout Ratio	Earnings	FCFE	Terminal Value	Cash Flow
0		6.65%	93.35%	2.14		stock price =	-63.51
1	56.54%	1.62%	98.38%	3.35	3.30		3.30
2	13.81%	1.43%	98.57%	3.81	3.76		3.76
3	12.13%	1.27%	98.73%	4.28	4.22		4.22
4	10.82%	1.15%	98.85%	4.74	4.68		4.68
5	9.76%	1.01%	98.99%	5.20	5.15		5.15
6	8.57%	0.87%	99.13%	5.65	5.60		5.60
7	7.38%	0.73%	99.27%	6.06	6.02		6.02
8	6.19%	0.59%	99.41%	6.44	6.40		6.40
9	4.99%	44.71%	55.29%	6.76	3.74		3.74
10	3.80%	44.71%	55.29%	7.02	3.88	155.47	159.35
11+	3.80%	44.71%	55.29%	7.28	4.03		

Value Line Earnings Growth Rate Ke = 14.41%

ave 12.28%
med 14.15%