



MONTANA
DEPARTMENT OF
REVENUE

**2023 Capitalization Rate Study
Telecommunications - Large**

Final

Completed: April 28, 2023

MONTANA DEPARTMENT OF REVENUE

Yield Capitalization Rate Conclusion

Industry: Telecommunications - Large

2023 Assessment Year

Capital Structure ^[1]

Equity	55.00%
Debt	45.00%

Equity Cost of Capital

		Weighting
Capital Asset Pricing Model - Ex Post ^[2]	9.88%	48%
Capital Asset Pricing Model - Ex Ante ^[2]	8.68%	12%
3 Stage Dividend Discount Model - Dividends ^[3]	11.10%	20%
3 Stage Dividend Discount Model - Earnings ^[3]	10.74%	<u>20%</u>
Weighted Average	<u>10.15%</u>	100%
Selected Cost of Equity	<u>10.15%</u>	

Debt Cost of Capital

		Weighting
A - Mergent's - Avg. YTM of A Rated Corporate Bonds ^[4]	5.12%	20%
Baa - Mergent's - Avg. YTM of Baa Rated Corporate Bonds ^[4]	5.59%	60%
Ba - Avg. of MTDOR Debt Study, Bloomberg and Capital IQ	7.04%	20%
B - Avg. of MTDOR Debt Study, Bloomberg and Capital IQ	<u>9.15%</u>	<u>0%</u>
Weighted Average	<u>5.79%</u>	100%
Selected Cost of Debt	<u>5.79%</u>	

Weighted Average Cost of Capital (WACC)

Source of Capital	Capital Structure	Cost of Capital	Marginal Tax Rate	Pre-tax Cost of Capital	After-tax Cost of Capital
Equity	55.00%	10.15%		5.58%	5.58%
Debt	45.00%	5.79%	24.00%	2.61%	1.98%
WACC	100.00%			8.19%	7.56%
WACC (Rounded)					7.60%

Notes

- [1] From worksheet: Capital Structure
- [2] From worksheet: Capital Asset Pricing Model Summary
- [3] From worksheet: Yield Equity Summary
- [4] January 2023, Mergent Bond Record

MONTANA DEPARTMENT OF REVENUE

**Direct Capitalization Rate Conclusion
Industry: Telecommunications - Large
2023 Assessment Year**

Capital Structure ^[1]

Equity	55.00%
Debt	45.00%

Equity Capitalization Rate ^[2]

NOI After-tax	10.86%
GCF	23.45%

Debt Capitalization Rate ^[3]

Calculated Current Yield	3.92%
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NOI After-tax Direct Capitalization Rate

Source of Capital	Capital Structure	Capitalization Rate	Marginal Tax Rate	Pre-tax Capitalization Rate	After-tax Capitalization Rate
Equity	55.00%	10.86%		5.97%	5.97%
Debt	45.00%	3.92%	24.00%	1.76%	1.34%
Total	100.00%			7.74%	7.31%
Total (Rounded)					7.35%

GCF Direct Capitalization Rate

Source of Capital	Capital Structure	Capitalization Rate	Marginal Tax Rate	Pre-tax Capitalization Rate	After-tax Capitalization Rate
Equity	55.00%	23.45%		12.90%	12.90%
Debt	45.00%	3.92%	24.00%	1.76%	1.34%
WACC	100.00%			14.66%	14.24%
Total (Rounded)					14.25%

Notes:

[1] From worksheet: Capital Structure

[2] From worksheet: Direct Equity Summary

[3] From worksheet: Calculated Current Yield

MONTANA DEPARTMENT OF REVENUE

Selection of Guideline Companies
Industry: Telecommunications - Large
2023 Assessment Year

Screening Requirements:

The universe of companies is all companies listed in Value Line under the Cable TV and Telecom Services industries.

Companies were then selected using the following screening criteria:

1. Market value of equity above 50 billion USD.
2. Incorporated in the United States of America.
3. Primarily provides two-way transmission of voice, image, data, or other information over wire, cable, fiber optics, microwave, radio, satellite, or similar facilities.
4. No significant merger & acquisition activity during the year.

The Value Line industry groups listed above were analyzed to determine which companies had a market capitalization over 50 billion U.S. dollars at December 31, 2022. Initial analysis revealed seven companies that met this criteria: Comcast Corp. (CMCSA), Charter Communications (CHTR), AT&T Inc. (T), T-Mobile US, Inc. (TMUS), Verizon Communications (VZ), Deutsche Telekom ADR (DTEGY), and America Movil (AMX). Five companies were then verified as incorporated in the United States (all except DTEGY & AMX). The five remaining companies (CHTR, CMCSA, T, TMUS, VZ) were analyzed for significant merger and acquisition activity during the previous year. Finding no disqualifying activity, the five companies were selected for use as guideline public companies in estimating the cost of capital in this study.

MONTANA DEPARTMENT OF REVENUE

Support for Capital Structure
Industry: Telecommunications - Large
2023 Assessment Year

(\$ and Shares Outstanding In Millions, Except Per Share Amounts)

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Ticker Symbol	Company	Industry Group	Financial Strength	Shares Outstanding	End of Year Closing Stock Price	MV Common Stock	MV Preferred Stock	MV Long Term Debt	PV of Operating Leases	Total Common, Preferred, LT Debt, & Op Leases	% Common	% Preferred	% Debt & Op Leases
		<i>Value Line</i>	<i>Value Line</i>	<i>10-K</i>	<i>Yahoo</i>	<i>ExF</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>G+H+I+J</i>	<i>G/K</i>	<i>H/K</i>	<i>(I+J)/K</i>
							<i>Note [1]</i>	<i>Note [2]</i>					
CHTR	Charter Communic.	CABLETV	B++	153	339.10	51,764	0	82,798	1,378	135,940	38%	0%	62%
CMCSA	Comcast Corp.	CABLETV	A+	4,211	34.97	147,247	0	86,900	6,782	240,929	61%	0%	39%
T	AT&T Inc.	TELESERV	B++	7,128	18.41	131,219	0	125,207	22,206	278,632	47%	0%	53%
TMUS	T-Mobile US	TELESERV	A	1,234	140.00	172,754	0	66,730	33,367	272,851	63%	0%	37%
VZ	Verizon Communic.	TELESERV	A++	4,200	39.40	165,475	0	139,041	25,692	330,208	50%	0%	50%
All Companies						668,459	0	500,676	89,425	1,258,560	53%	0%	47%
Average											52%	0%	48%
Median											50%	0%	50%
High											63%	0%	62%
Low											38%	0%	37%
Selected											55%		45%

Notes:

[1] Market value of preferred stock assumed to equal book value

[2] Market value of debt is fair value of long term debt from 10-K notes

MCA 15-1-210, rationale for changes to guideline companies:

2023 - No changes to guideline companies

		<u>Median</u>	
Current Year	50%	0%	50%
Prior Year	53%	0%	47%
2 Years Prior	58%	0%	42%
3 Year Average	54%	0%	46%

MONTANA DEPARTMENT OF REVENUE

**Capital Asset Pricing Model (CAPM)
Industry: Telecommunications - Large
2023 Assessment Year**

$$k_e = R_f + \beta \times ERP$$

		<i>Ex Post</i>	<i>Ex Ante</i>
$k_e =$	Cost of Equity	9.88%	8.68%
$R_f =$	Risk Free Rate	4.14%	4.14%
$\beta =$	Beta	0.80	0.80
$ERP =$	Equity Risk Premium ($R_m - R_f$)	7.17%	5.68%
$R_m =$	Market Rate of Return	11.31%	9.82%

Risk Free Rate Measures (R_f):

The Value Line Investment Survey: Selection & Opinion^[1]

January 6, 2023 Page 1465

Selected Yields on Taxable U.S. Treasury Securities as of 12/27/22

10-year	3.84%
30-year	3.93%

Federal Reserve Statistical Release^[2]

U.S. government securities, Treasury constant maturities, Nominal, December 30, 2022

10-year	3.88%
20-year	4.14%
30-year	3.97%

Risk Free Rate Selected

4.14%

Notes

[1] "Value Line Selection & Opinion", Value Line (January 6, 2023)

[2] <https://www.federalreserve.gov/datadownload/Choose.aspx?rel=H.15>

MONTANA DEPARTMENT OF REVENUE

Capital Asset Pricing Model (CAPM)
Industry: Telecommunications - Large
2023 Assessment Year

$$k_e = R_f + \beta \times ERP$$

Ex Post - Equity Risk Premium Measures (ERP = Rm - Rf)

Kroll, 2023 Cost of Capital Navigator

		<u>R_m</u>	<u>R_f</u>	<u>ERP</u>
ERP "Historical" - <i>Ex Post</i>	<i>Arithmetic Avg.</i>	11.31%	4.14%	7.17%
ERP "Supply-side" - <i>Ex Post</i>	<i>Arithmetic Avg.</i>	10.49%	4.14%	6.35%
Ex Post Equity Risk Premium Selected		11.31%	4.14%	7.17%

Ex Ante - Equity Risk Premium Measures (ERP = Rm - Rf)

DOR 3 Stage Dividend Growth Model, S & P 500, See Exhibit

		<u>R_m</u>	<u>R_f</u>	<u>ERP</u>
ERP - <i>Ex Ante</i>		8.81%	4.14%	4.67%

Kroll, 2023 Cost of Capital Navigator

		<u>R_m</u>	<u>R_f</u>	<u>ERP</u>
ERP "Conditional" - <i>Ex Ante</i>		9.50%	3.50%	6.00%

Damodaran Implied ERP (Jan 1, 2023)

		<u>R_m</u>	<u>R_f</u>	<u>ERP</u>
Implied Premium - <i>Ex Ante</i> - Trailing 12 month, with adjusted payout		8.99%	3.88%	5.11%
Implied Premium - <i>Ex Ante</i> - Trailing 12 month cash yields		9.82%	3.88%	5.94%
Implied Premium - <i>Ex Ante</i> - Average CF yield last 10 years		9.73%	3.88%	5.85%
Implied Premium - <i>Ex Ante</i> - Net cash yield		9.56%	3.88%	5.68%
Implied Premium - <i>Ex Ante</i> - Normalized earnings and payout		8.71%	3.88%	4.83%

		<u>R_m</u>	<u>R_f</u>	<u>ERP</u>
<u>Average</u>		9.30%		5.44%
<u>Median</u>		9.50%		5.68%
<u>High</u>		9.82%		6.00%
<u>Low</u>		8.71%		4.67%

Ex Ante Equity Risk Premium Selected		9.82%	4.14%	5.68%
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MONTANA DEPARTMENT OF REVENUE

Support for Beta Selection in CAPM
 Industry: Telecommunications - Large
 2023 Assessment Year

A	B	C	D	E
Ticker Symbol	Company	Industry Group	Financial Strength	Beta
		<i>Value Line</i>	<i>Value Line</i>	<i>Value Line</i>
CHTR	Charter Communic.	CABLETV	B++	0.95
CMCSA	Comcast Corp.	CABLETV	A+	0.85
T	AT&T Inc.	TELESERV	B++	
TMUS	T-Mobile US	TELESERV	A	0.80
VZ	Verizon Communic.	TELESERV	A++	0.60
Average				0.80
Median				0.83
Trimmed Average				0.83
High				0.95
Low				0.60
Selected				0.80

MONTANA DEPARTMENT OF REVENUE

Inflation & Real Growth

Industry: Telecommunications - Large

2023 Assessment Year

A	B	C	D	Nominal Growth	
				E	F
Source Description	Inflation (CPI)	Real Growth (GDP)	Nominal Growth	Low	High
Livingston Survey ^[1]	2.55%	1.97%	4.52%		
Survey of Professional Forecasters ^[2]	2.44%	1.96%	4.40%		
Congressional Budget Office ^[3]	2.30%	1.80%	4.10%		
Average	2.43%	1.91%	4.34%		
Median	2.44%	1.96%	4.40%		
High	2.55%	1.97%	4.52%		
Low	2.30%	1.80%	4.10%		
Selected	2.45%	2.00%	4.45%	4.10%	4.52%

Inflationary Trend Factors						
Year	Dec. CPI-U Index	Percent Change From Previous	Dec. to Dec. Conversion Factor	Annual Avg. CPI-U Index	Percent Change From Previous	Annual Conversion Factor
	<i>Note [5]</i>	<i>Note [6]</i>	<i>Note [7]</i>	<i>Note [5]</i>	<i>Note [6]</i>	<i>Note [7]</i>
2011	225.672	2.9%	1.3152	224.939	3.1%	1.3010
2012	229.601	1.7%	1.2927	229.594	2.0%	1.2747
2013	233.049	1.5%	1.2735	232.957	1.4%	1.2563
2014	234.812	0.8%	1.2640	236.736	1.6%	1.2362
2015	236.525	0.7%	1.2548	237.017	0.1%	1.2347
2016	241.432	2.0%	1.2293	240.007	1.2%	1.2194
2017	246.524	2.1%	1.2039	245.120	2.1%	1.1939
2018	251.233	1.9%	1.1814	251.107	2.4%	1.1655
2019	256.974	2.2%	1.1550	255.657	1.8%	1.1447
2020	260.474	1.3%	1.1394	258.811	1.2%	1.1308
2021	278.802	6.6%	1.0645	270.970	4.5%	1.0800
2022	296.797	6.1%	1.0000	292.655	7.4%	1.0000

Notes

[1] Federal Reserve Bank of Philadelphia The Livingston Survey December 16, 2023 Table 3 Inflation Rate and Real GDP mean

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

[2] Federal Reserve Bank of Philadelphia Survey of Professional Forecasters February 10, 2023 Table 8 and Table 9 Average over next 10-Year mean

<https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/survey-of-professional-forecasters>

[3] The Budget and Economic Outlook: 2023 To 2033, Table B-1

<https://www.cbo.gov/about/products/budget-economic-data#4>

[5] Historical Consumer Price Index for All Urban Consumers (CPI-U): U.S. city average, all items, index averages (1982-84=100, unless otherwise noted)

<https://www.bls.gov/cpi/tables/supplemental-files/historical-cpi-u-202212.pdf>

[6] (Row year - Previous Year) / Row Year

[7] Most current year / Row year

MONTANA DEPARTMENT OF REVENUE

3 Stage Dividend Discount Model (DDM)

Industry: Telecommunications - Large

2023 Assessment Year

$$k_e = (D_1 / P_0) + g$$

k_e = Cost of Equity

D_1 = Expected Dividend

P_0 = Current Price Per Share

g = Sustainable Long-Term Growth

A	B	C	D	E	F	G	H	I
Ticker	Company	2022 Year End Stock Price	2023 Est Div'ds Decl'd per sh	Expected Equity Payout Yield	Sustainable Long-Term Growth Rate ^[1]	Sustainable Long-Term Growth Rate ^[1]	Cost of Equity Dividend Growth	Cost of Equity Earnings Growth
		<i>Yahoo</i>	<i>Value Line</i>	<i>D/C</i>	<i>Dividends</i>	<i>Earnings</i>	<i>E+F</i>	<i>E+G</i>
		P_0	D_1	D_1/P_0	g	g	k_e	k_e
CHTR	Charter Communic.	339.10	0.00	0.00%	0.00%	0.00%		
CMCSA	Comcast Corp.	34.97	1.18	3.37%	6.88%	6.63%	10.25%	10.01%
T	AT&T Inc.	18.41	1.11	6.03%	6.84%	6.71%	12.87%	12.73%
TMUS	T-Mobile US	140.00	0.00	0.00%	0.00%	0.00%		
VZ	Verizon Communic.	39.40	2.64	6.70%	3.48%	2.77%	10.18%	9.47%
Average							11.10%	10.74%
Median							10.25%	10.01%
High							12.87%	12.73%
Low							10.18%	9.47%
Selected							11.10%	10.74%

Notes

[1] From worksheet: DDM Sustainable Long-Term Growth

Implied Sustainable LTG:

5.73%

5.37%

MONTANA DEPARTMENT OF REVENUE

Support for DDM - Short Term Growth Rate Calculations

Industry: Telecommunications - Large

2023 Assessment Year

A	B	C	D	E	F	G
Ticker	Company	End of Year Closing Stock Price	Div'ds Decl'd per sh 2023 Est^[1]	Expected Dividend Yield	Div'ds Decl'd per sh 2025-2027 Est^[1]	Short Term Growth Rate
		<i>Yahoo</i>	<i>Value Line</i>	<i>D / C</i>	<i>Value Line</i>	<i>Note [2]</i>
CHTR	Charter Communic.	339.10	0.00	0.00%	0.00	0.00%
CMCSA	Comcast Corp.	34.97	1.18	3.37%	1.54	9.28%
T	AT&T Inc.	18.41	1.11	6.03%	1.40	8.04%
TMUS	T-Mobile US	140.00	0.00	0.00%	0.00	0.00%
VZ	Verizon Communic.	39.40	2.64	6.70%	2.88	2.94%

A	B	C	D	E
Ticker	Company	Earnings per share 2023 Est^[1]	Earnings per share 2025-2027 Est^[1]	Short Term Growth Rate
		<i>Value Line</i>	<i>Value Line</i>	<i>Note [2]</i>
CHTR	Charter Communic.	36.50	54.55	14.33%
CMCSA	Comcast Corp.	3.80	4.90	8.84%
T	AT&T Inc.	2.75	3.45	7.85%
TMUS	T-Mobile US	7.80	9.00	4.89%
VZ	Verizon Communic.	5.55	5.85	1.77%

Notes

[1] From Value Line Tissue

[2] 4 year compound annual growth rate (CAGR) - 3 periods

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Support for DDM - Sustainable Long Term Growth

Industry: Telecommunications - Large

2023 Assessment Year

Dividend Growth Rate									Stage 1				
Ticker	Company	Year End Stock Price	Expected Short-Term Dividend Growth Rate	Expected Long-Term Growth Rate	Expected Dividend Yield	Internal Rate of Return	Implied Sustainable Long-Term Growth Rate (g)	Initial Investment	D ₁	D ₂	D ₃	D ₄	D ₅
		Yahoo	Note [1]	Note [2]	D_1/P_0	$K_e = IRR \text{ of } D_1:D_{500}$	$g = IRR - Div. \text{ Yield}$						
CHTR	Charter Communic.	339.10	0.00%	4.45%	0.00%			(339.10)	0.00	0.00	0.00	0.00	0.00
CMCSA	Comcast Corp.	34.97	9.28%	4.45%	3.37%	10.25%	6.88%	(34.97)	1.18	1.29	1.41	1.54	1.68
T	AT&T Inc.	18.41	8.04%	4.45%	6.03%	12.87%	6.84%	(18.41)	1.11	1.20	1.30	1.40	1.51
TMUS	T-Mobile US	140.00	0.00%	4.45%	0.00%			(140.00)	0.00	0.00	0.00	0.00	0.00
VZ	Verizon Communic.	39.40	2.94%	4.45%	6.70%	10.18%	3.48%	(39.40)	2.64	2.72	2.80	2.88	2.96

Earnings Growth Rate									Stage 1				
Ticker	Company	Year End Stock Price	Expected Short-Term Earnings Growth Rate	Expected Long-Term Growth Rate	Expected Dividend Yield	Internal Rate of Return	Implied Sustainable Long-Term Growth Rate (g)	Initial Investment	D ₁	D ₂	D ₃	D ₄	D ₅
		Yahoo	Note [1]	Note [2]	D_1/P_0	$K_e = IRR \text{ of } D_1:D_{500}$	$g = IRR - Div. \text{ Yield}$						
CHTR	Charter Communic.	339.10	14.33%	4.45%	0.00%			(339.10)	0.00	0.00	0.00	0.00	0.00
CMCSA	Comcast Corp.	34.97	8.84%	4.45%	3.37%	10.01%	6.63%	(34.97)	1.18	1.28	1.40	1.52	1.66
T	AT&T Inc.	18.41	7.85%	4.45%	6.03%	12.73%	6.71%	(18.41)	1.11	1.20	1.29	1.39	1.50
TMUS	T-Mobile US	140.00	4.89%	4.45%	0.00%			(140.00)	0.00	0.00	0.00	0.00	0.00
VZ	Verizon Communic.	39.40	1.77%	4.45%	6.70%	9.47%	2.77%	(39.40)	2.64	2.69	2.73	2.78	2.83

Notes

[1] From worksheet: DDM Short Term Growth Rate Calculations

[2] From worksheet: Inflation & Real Growth

MONTANA DEPARTMENT OF REVENUE

Support for DDM - Sustainable Long Term Growth

Industry: Telecommunications - Large

2023 Assessment Year

Dividend	Stage 2															Stage 3		
	D ₆	D ₇	D ₈	D ₉	D ₁₀	D ₁₁	D ₁₂	D ₁₃	D ₁₄	D ₁₅	D ₁₆	D ₁₇	D ₁₈	D ₁₉	D ₂₀	D ₂₁	D ₂₂	D ₅₀₀
CHTR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
CMCSA	1.83	2.00	2.18	2.37	2.58	2.82	3.07	3.34	3.64	3.97	4.32	4.71	5.13	5.59	6.10	6.37	6.65	7,262,481,252
T	1.63	1.76	1.90	2.04	2.20	2.37	2.56	2.76	2.97	3.21	3.46	3.73	4.02	4.33	4.67	4.88	5.09	5,563,457,395
TMUS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
VZ	3.05	3.15	3.24	3.34	3.44	3.55	3.66	3.77	3.88	4.00	4.12	4.25	4.38	4.51	4.65	4.86	5.07	5,537,834,891

Earnings	Stage 2															Stage 3		
	D ₆	D ₇	D ₈	D ₉	D ₁₀	D ₁₁	D ₁₂	D ₁₃	D ₁₄	D ₁₅	D ₁₆	D ₁₇	D ₁₈	D ₁₉	D ₂₀	D ₂₁	D ₂₂	D ₅₀₀
CHTR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
CMCSA	1.80	1.95	2.12	2.30	2.50	2.71	2.94	3.19	3.47	3.76	4.08	4.43	4.81	5.22	5.67	5.92	6.19	6,755,518,480
T	1.62	1.74	1.87	2.02	2.17	2.33	2.51	2.70	2.91	3.13	3.37	3.63	3.90	4.20	4.52	4.72	4.93	5,387,774,443
TMUS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
VZ	2.89	2.94	3.00	3.06	3.12	3.18	3.24	3.30	3.37	3.43	3.50	3.57	3.64	3.71	3.78	3.95	4.13	4,506,930,674

MONTANA DEPARTMENT OF REVENUE

Support for Yield Capitalization Rate - Debt Rating

Industry: Telecommunications - Large

2023 Assessment Year

A	B	C	D	E	F
Ticker Symbol	Company	Industry Group	Financial Strength	Moody's Long Term Rating	Yield to Maturity
		<i>Value Line</i>	<i>Value Line</i>	<i>Moodys.com</i>	
CHTR	Charter Communic.	CABLETV	B++	Ba2	7.04%
CMCSA	Comcast Corp.	CABLETV	A+	A3	5.12%
T	AT&T Inc.	TELESERV	B++	Baa2	5.59%
TMUS	T-Mobile US	TELESERV	A	Baa3	5.59%
VZ	Verizon Communic.	TELESERV	A++	Baa1	5.59%
Average					5.79%
Median					5.59%
Trimmed Average					5.59%
High					7.04%
Low					5.12%
Selected					5.79%

MONTANA DEPARTMENT OF REVENUE

Support for Direct Capitalization - Equity Capitalization Rates

Industry: Telecommunications - Large

2023 Assessment Year

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Ticker Symbol	Company	End of Year Closing Stock Price	VL Historic EPS	VL Est EPS	VL Historic P/E Ratio	VL Est P/E Ratio	Ke Estimate - Earnings (Hist. P/E)	Ke Estimate - Earnings (Est. P/E)	VL Historic Cash Flow Per Share	VL Est Cash Flow Per Share	VL Historic P/CF Ratio	VL Est P/CF Ratio	Ke Estimate Cash Flow (Hist. P/CF)	Ke Estimate Cash Flow (Est. P/CF)	Market Value of Equity	Book Value of Equity	MTBR
		Yahoo	Value Line	Value Line	C/D	C/E	1/F	1/G	Value Line	Value Line	C/J	C/K	1/L	1/M	Price x Shrs	10-K	P/Q
CHTR	Charter Communic.	339.10	30.77	36.50	11.02	9.29	9.07%	10.76%	91.44	107.15	3.71	3.16	26.97%	31.60%	51,764	9,119	5.68
CMCSA	Comcast Corp.	34.97	3.65	3.80	9.58	9.20	10.44%	10.87%	6.58	6.85	5.31	5.11	18.82%	19.59%	147,247	80,944	1.82
T	AT&T Inc.	18.41	2.64	2.75	6.97	6.69	14.34%	14.94%	6.26	5.55	2.94	3.32	34.00%	30.15%	131,219	166,332	0.79
TMUS	T-Mobile US	140.00	6.19	7.80	22.62	17.95	4.42%	5.57%	17.36	19.35	8.06	7.24	12.40%	13.82%	172,754	69,656	2.48
VZ	Verizon Communic.	39.40	5.17	5.55	7.62	7.10	13.12%	14.09%	9.19	9.15	4.29	4.31	23.32%	23.22%	165,475	81,790	2.02
Average					11.56	10.05	10.28%	11.25%			4.86	4.63	23.10%	23.68%			2.56
Median					9.58	9.20	10.44%	10.87%			4.29	4.31	23.32%	23.22%			2.02
Trimmed Average					9.41	8.53	10.88%	11.91%			4.44	4.24	23.04%	24.32%			1.42
High					22.62	17.95	14.34%	14.94%			8.06	7.24	34.00%	31.60%			5.68
Low					6.97	6.69	4.42%	5.57%			2.94	3.16	12.40%	13.82%			0.79
Selected						9.21	10.86%				4.26		23.45%				2.55

MONTANA DEPARTMENT OF REVENUE

Support for Direct Capitalization Cost of Debt Component - Calculated Current Yield

Industry: Telecommunications - Large

2023 Assessment Year

(\$ in Millions)

A	B	C	D	E	F	G	H	I	J
Ticker	Company	Current Year Interest Exp.	Previous Year MV LT Debt	Previous Year BV LT Debt	Current Year MV LT Debt	Current Year BV LT Debt	Average MV LT Debt	Current Yield	MTBR
		<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>(D+F)/2</i>	<i>(C/H)</i>	<i>(F/G)</i>
CHTR	Charter Communic.	4,556	99,641	91,561	82,798	97,603	91,220	4.99%	0.85
CMCSA	Comcast Corp.	3,896	109,300	94,850	86,900	94,811	98,100	3.97%	0.92
T	AT&T Inc.	6,108	201,223	175,631	125,207	135,890	163,215	3.74%	0.92
TMUS	T-Mobile US	3,364	80,905	76,768	66,730	74,491	73,818	4.56%	0.90
VZ	Verizon Communic.	3,613	169,205	150,868	139,041	150,639	154,123	2.34%	0.92
All Companies		21,537			500,676	553,434	580,475	3.71%	0.90
Average								3.92%	0.90
Median								3.97%	0.92
Trimmed Average								4.09%	0.91
High								4.99%	0.92
Low								2.34%	0.85
Selected								3.92%	0.90

MONTANA DEPARTMENT OF REVENUE

Support of Stock Price - From YAHOO Finance

Industry: Telecommunications - Large

2023 Assessment Year

		End of Period Closing Stock Price											
1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	B	C	D	E	F	G	H	I	J	K	L	M	N
Ticker	Company	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
CHTR	Charter Communic.	593.34	601.78	545.52	428.49	506.93	468.53	432.10	412.63	303.35	367.62	391.29	339.10
CMCSA	Comcast Corp.	49.99	46.76	46.82	39.76	44.28	39.24	37.52	36.19	29.33	31.74	36.64	34.97
T	AT&T Inc.	19.26	17.89	17.85	18.86	21.29	20.96	18.78	17.54	15.34	18.23	19.28	18.41
TMUS	T-Mobile US	108.17	123.21	128.35	123.14	133.29	134.54	143.06	143.96	134.17	151.56	151.46	140.00
VZ	Verizon Communic.	53.23	53.67	50.94	46.30	51.29	50.75	46.19	41.81	37.97	37.37	38.98	39.40

