



Cost of Capital Study

January 1, 2014

Staff Recommendation

Industry: Telecom Services			SIC: 4890
Equity:			Reference
Risk Adjusted Models			
	CAPM	10.36%	Page 5
Dividend Growth Models			
	DGM or DCF Model (Dividend Growth)	10.00%	Page 7
	DGM or DCF Model (Earnings Growth)	13.00%	Page 7
	DGM or DCF Model (b * ROE = Growth)	11.75%	Page 7
Estimated Cost of Equity Capital		12.25%	
Debt:			
Estimated Cost of Debt Capital		5.40%	Page 3
<hr/> Cost of Capital Summary <hr/>			
Capital Component	Market Capital Structure	Cost of Capital	Before-Tax Weighted Average Cost of Capital
Debt	30.00%	5.40%	1.62%
Equity	70.00%	12.25%	8.58%
TOTAL	100.00%		10.20%
		Rounded	10.25%

Cost of Capital Study

January 1, 2014

Staff Recommendation

Industry: Telecom Services			SIC: 4890
Equity:	Direct Rate		Reference
	Estimated Cost of Equity Capital	6.67%	Page 8
Debt:			
	Estimated Cost of Debt Capital	4.78%	Page 9
<hr/> Cost of Capital Summary <hr/>			
Capital Component	Market Capital Structure	Cost of Capital	Before-Tax Weighted Average Cost of Capital
Debt	30.00%	4.78%	1.43%
Equity	70.00%	6.67%	4.67%
TOTAL	100.00%		6.10%
		Rounded	6.00%

Cost of Capital Study
January 1, 2014
Capital Asset Pricing Model (CAPM)

CAPM ==> $K_e = R_f + (\beta * ERP)$

Industry: Telecom Services	SIC: 4890
Risk-Free Rate (R_f)	3.75%
Beta (β)	0.95
Equity Risk Premium (ERP): ($R_m - R_f$)	6.96%
Adjusted Equity Risk Premium: ($\beta * ERP$)	6.61%
Cost of Equity Capital - CAPM	10.36%
Ibbotson SBBI 2014 Classic Yearbook	
Long-Term Government Bonds - Income Return ¹	5.90%
Intermediate Term US Treasury Coupon Note Yield (5-Year) ¹	5.40%
Short-Term US Treasury Bill Yield (30-Day) ¹	3.50%
Long-Term US Treasury Coupon Bond Yield (20-Year) ²	3.67%
Long-Term Horizon Expected Equity Risk Premium ³ (Large Compay Stock Total Return - Long-Term US Government Bond Income)	6.96%
¹ Table 2-1: Basic Series, Summary Statistics of Annual Total Returns, Arithmetic Mean, p. 40	
² Table 11-1: Building Blocks for Expected Return Construction, p. 142	
³ Table 11.4: Long-Horizon Expected Equity Risk Premium, p. 152	
Federal Interest Rates - IRS.gov, January 2014 Weighted Average Rates	
Long Term Treasury (30 year) ¹	3.46%
Composite Corporate Bonds ²	4.69%
¹ http://www.irs.gov/Retirement-Plans/Weighted-Average-Interest-Rate-Table	
² http://www.irs.gov/Retirement-Plans/Composite-Corporate-Bond-Rate-Table	
The ValueLine Investment Survey, Selected Yields, Page 553, January 10, 2014	
U.S. Treasury Securities:	
5-year	1.75%
10-year	3.03%
30-year	3.96%
30-year Zero	4.24%
Federal Reserve Statistical Release (http://www.federalreserve.gov/Releases/H15/20140106/) 1/6/2014	
Treasury constant Maturities:	
5-year	1.73%
10-year	3.01%
20-year	3.69%
30-year	3.93%
Risk-Free Rate of Return R_f Estimate:	3.75%

Cost of Capital Study

January 1, 2014

Beta (β) Analysis

Industry: Telecom Services		SIC: 4890
Company Name	Stock Symbol	Beta " β "
America Movil	AMX	1.10
AT&T Inc.	T	0.75
Atlantic Tele-Network	ATNI	1.00
Cbeyond Inc.	CBEY	0.85
Dycom Inds.	DY	1.35
Gen'l Communic. 'A'	GNCMA	1.10
Inteliquent Inc.	IQNT	NMF
j2 Global	JCOM	0.85
NTELOS Hldgs.	NTLS	0.80
Shenandoah Telecom.	SHEN	0.95
Sprint Nextel Corp.	S	1.00
T-Mobile US	TMUS	NMF
Telecom N. Zealand	NZTCY	0.85
Telephone & Data	TDS	1.10
TELUS Corporation	T.TO	0.50
U.S. Cellular	USM	1.05
Verizon Communic.	VZ	0.70
Vodafone Group ADR	VOD	0.85
Vonage Holdings	VG	1.30
Mean:		0.95
Median:		0.95
Beta (β) Estimate:		0.95

NMF = Not Meaningful

Data Source: Value Line Investment Survey

Cost of Capital Study
January 1, 2014
Dividend Growth Model (DGM or DCF)

$$\text{DGM or DCF Model} \implies K_e = \frac{D_1}{P_0} + g$$

where
K_e = Cost of Equity
D₁ = Expected Dividends
P₀ = Current Price
g = Sustainable Growth

Industry: Telecom Services											SIC: 4890	
Company Name	Stock Symbol	Stock Price P ₀	Expected Dividend D ₁	Dividend Yield (D ₁ / P ₀)	Dividend Growth g	Earnings Growth g	b	ROE	g=(b * ROE)	(Dividends) K _e	(Earnings) K _e	g=(b * ROE) K _e
America Movil	AMX	21.20	0.34	1.60%	8.00%	3.50%	83.17%	30.29%	25.19%	9.60%	5.10%	26.80%
AT&T Inc.	T	34.65	1.85	5.34%	4.00%	7.00%	27.98%	14.71%	4.12%	9.34%	12.34%	9.45%
Atlantic Tele-Network	ATNI	49.28	1.08	2.19%	7.50%	7.50%	58.63%	13.37%	7.84%	9.69%	9.69%	10.03%
Cbeyond Inc.	CBEY	7.49	-	0.00%	0.00%	0.00%	100.00%	-1.35%	-1.35%	NMF	NMF	NMF
Dycom Inds.	DY	24.10	-	0.00%	0.00%	15.00%	100.00%	9.64%	9.64%	NMF	15.00%	9.64%
Gen'l Communic. 'A'	GNCMA	9.13	-	0.00%	0.00%	22.00%	100.00%	6.15%	6.15%	NMF	22.00%	6.15%
Inteliquent Inc.	IQNT	6.56	0.30	4.58%	0.00%	5.00%	100.00%	16.16%	16.16%	4.58%	9.58%	20.74%
j2 Global	JCOM	42.68	1.14	2.67%	13.00%	8.50%	58.02%	15.22%	8.83%	15.67%	11.17%	11.50%
NTELOS Hldgs.	NTLS	15.72	1.68	10.69%	0.50%	12.00%	-9.63%	57.01%	-5.49%	11.19%	22.69%	5.20%
Shenandoah Telecom.	SHEN	18.79	0.36	1.92%	3.50%	14.50%	55.41%	7.98%	4.42%	5.42%	16.42%	6.34%
Sprint Nextel Corp.	S	6.66	-	0.00%	0.00%	0.00%	100.00%	-11.79%	-11.79%	NMF	NMF	NMF
T-Mobile US	TMUS	22.20	-	0.00%	0.00%	6.50%	100.00%	0.24%	0.24%	NMF	6.50%	NMF
Telecom N. Zealand	NZTCY	9.25	0.52	5.62%	6.50%	6.50%	-38.56%	16.77%	-6.47%	12.12%	12.12%	NMF
Telephone & Data	TDS	25.29	0.54	2.13%	3.50%	-3.00%	35.01%	2.04%	0.71%	5.63%	NMF	NMF
TELUS Corporation	T.TO	41.02	1.53	3.73%	10.00%	9.50%	41.28%	17.14%	7.08%	13.73%	13.23%	10.80%
U.S. Cellular	USM	38.92	-	0.00%	0.00%	-1.00%	100.00%	2.92%	2.92%	NMF	NMF	NMF
Verizon Communic.	VZ	47.76	2.12	4.44%	2.00%	10.50%	12.40%	18.00%	2.23%	6.44%	14.94%	6.67%
Vodafone Group ADR	VOD	30.96	3.10	10.01%	3.00%	-0.50%	37.55%	10.76%	4.04%	13.01%	9.51%	14.05%
Vonage Holdings	VG	2.99	-	0.00%	0.00%	3.50%	100.00%	14.56%	14.56%	NMF	NMF	14.56%
Mean:				2.89%	3.24%	6.68%	61.12%	12.62%	4.69%	9.70%	12.88%	11.69%
Median:				2.13%	2.00%	6.50%	58.63%	13.37%	4.12%	9.65%	12.23%	10.03%
Cost of Equity Capital - DCF K_e Estimate:										10.00%	13.00%	11.75%

NMF = Not Meaningful
b = (1 - payout ratio) = Retention Ratio
ROE = Return on Book Equity
Stock Price = 2013 Average Closing Price

Data Source: Value Line Investment Survey

Cost of Capital Study
January 1, 2014
Direct Debt Rate Calculation

Industry: Telecom Services		
Direct Capitalization Debt Rate		
Interest Expense		\$ 11,442
Total Value of Debt (TVD)		\$ 239,157
Current Yield = Interest Expense/TVD		4.78%

\$ (millions)

Data Source: ValueLine Investment Survey