

SBC Communications Bond Yields

	S&P DEBT RATING	Debt Outstanding at Par (mil \$)	Yield to Maturity
<u>Southwestern Bell Cap</u>			
M-T Nts 'D' 6.45s '98	A+	5.00	6.45%
M-T Nts 'D' 6.45s '98	A+	7.00	6.45%
M-T Nts 'D' 6 1/4s '98	A+	10.0	6.52%
M-T Nts 'D' 7s '99	A+	8.00	6.91%
M-T Nts 'D' 7s '99	A+	15.0	6.91%
M-T Nts 'D' 8.48s '99	A+	75.0	8.47%
M-T Nts 'D' 6 3/4s '2000	A+	20.0	6.95%
M-T Nts 'D' 6 3/4s '2000	A+	15.0	6.87%
M-T Nts 'D' 7 1/4s '2003	A+	11.0	7.30%
M-T Nts 'D' 7.3 s '2003	A+	10.0	7.30%
M-T Nts 'D' 7.1 s '2003	A+	5.00	7.30%
M-T Nts 'D' 7.3 s '2003	A+	6.00	7.32%
M-T Nts 'D' 7.05 s '2004	A+	10.0	7.46%
M-T Nts 'D' 7.35 s '2010	A+	20.0	7.63%
<u>Southwestern Bell Tel</u>			
Deb 4 1/2s '97	AA	100	6.20%
Deb 5 7/8s 2003	AA	150	7.14%
Deb 5 3/8s 2006	AA	150	7.46%
Deb 6 3/4s 2008	AA	150	7.56%
Deb 7 3/4s 2009	AA	125	7.75%
Deb 6 7/8s 2011	AA	200	7.62%
Deb 7 3/8s 2012	AA	175	7.76%
Deb 7 5/8s 2013	AA	300	7.89%
Deb 7s 2015	AA	250	7.71%
Deb 7 5/8s 2023	AA	200	7.90%
Deb 6 5/8s 2024	AA	200	7.78%
Deb 7 1/4s 2025	AA	150	7.87%
Deb 7.20s 2026	AA	300	7.82%
Nts 6 1/8s 2000	AA	150	6.88%
Nts 6 3/8s 2001	AA	200	6.69%
Nts 6 1/4s 2002	AA	150	7.08%
Nts 5 3/4s 2004	AA	200	7.33%
Nts 6 5/8s 2005	AA	150	7.33%
M-T Nts 'C' 7.21s 2010	AA	50	7.53%
M-T Nts 'C' 7.18s 2010	AA	20	7.53%
M-T Nts 'C' 7.22s 2010	AA	23	7.53%
Weighted Average:			7.50%

US WEST Bond Yields

	S&P DEBT RATING	Debt Outstanding at Par (mil \$)	Yield to Maturity
<u>US WEST Communications</u>			
Deb 7 1/2s 2023	A+	484	8.02%
Deb 7 1/4s 2025	A+	250	7.76%
Deb 7.20s 2026	A+	250	8.04%
Deb 8 7/8s 2031	A+	250	8.35%
Deb 6 7/8s 2033	A+	1000	8.01%
Deb 7 1/4s 2035	A+	250	7.94%
Deb 7 1/8s 2043	A+	250	7.95%
Nts 6 3/8s 2002	A+	250	7.10%
Nts 6 5/8s 2005	A+	250	7.33%
Nts 6 1/8s 2005	A+	150	7.31%
<u>Mountain States Tel&Tel (Now US West Communications)</u>			
Deb 5s 2000	A+	40	6.75%
Deb 4 1/2s 2002	A+	50	7.01%
Deb 5 1/2s 2005	A+	41	7.22%
Deb 6s 2007	A+	70.2	7.30%
Deb 7 3/8s 2030	A+	55.2	7.59%
Deb 9 1/2s 2000	A+	100	6.92%
<u>Northwestern Bell Tel (Merged into US West Communications)</u>			
Deb 4 7/8s '98	A+	35.4	6.56%
Deb 6s 2001	A+	50	6.92%
Deb 4 3/8s 2003	A+	40	7.10%
Deb 6 1/4s 2007	A+	89.7	7.20%
Nts 9 1/2s 2000	A+	75	6.92%
<u>Pacific NorthwestBellTel (Merged into US West Communications)</u>			
Deb 4 1/2s 2000	A+	50	6.94%
Deb 4 3/8s 2002	A+	50	7.12%
Deb 4 1/2s 2003	A+	50	7.20%
Nts 7 1/2s '96	A+	170	5.90%
Weighted Average:			7.64%

Source: Standard & Poor's Bond Guide, August 1996

GTE Bond Yields

	S&P DEBT RATING	Debt Outstanding at Par (mil \$)	Yield to Maturity
<u>GTE California</u>			
1st TT 6 1/4s '98	AA-	150	6.34%
Deb 'A' 5 5/8s 2001	AA-	300	7.01%
Deb 'B' 6 3/4s 2004	AA-	250	7.29%
Deb 'C' 8.07s 2024	AA-	250	7.90%
Deb 'D' 7s 2008	AA-	100	7.29%
<u>General Tel. California (Now GTE California)</u>			
1st S 6s '96	AA-	45.0	5.88%
1st T 6 3/4s '97	AA-	55.0	6.54%
1st U 7 1/8s '98	AA-	60.0	7.00%
1st X 7 5/8s 2001	AA-	50.0	7.62%
<u>GTE Corp.</u>			
SF Deb 10 3/4s 2017	BBB+	200	9.77%
Deb 8.85s '98	BBB+	700	6.56%
Deb. 9 3/8s 2000	BBB+	500	6.96%
Deb. 9.10s 2003	BBB+	500	7.22%
Deb 8 1/2s 2017	BBB+	250	8.31%
Deb 10.30s 2017	BBB+	200	9.33%
Deb 10 1/4s 2020	BBB+	400	8.86%
Deb 8 3/4s 2021	BBB+	300	7.71%
Deb 7.83s 2023	BBB+	500	7.99%
<u>Continental Tel of Cal (Now Contel of California - subs of Contel Corp. - subs of GTE)</u>			
1st J 7 5/8s '97	AA-	10.0	7.33%
<u>GTE Florida</u>			
Deb 'A' 6.31s 2002	AA-	200	7.23%
Deb 'B' 7.41s 2023	AA-	200	7.89%
Deb 'C' 7 1/4s 2025	AA-	100	7.88%
Deb 'D' 6 1/4s 2005	AA-	100	7.32%
<u>General Tel Florida (Now GTE Florida)</u>			
1st L 6 1/2s '97	AA-	20.0	6.38%
1st N 8s 2001	AA-	45.0	7.60%
1st O 7 1/2s 2002	AA-	50.0	7.29%
1st BB 8 3/8s 2027	AA-	75.0	8.27%
<u>GTE Hawaiian Tel</u>			
1st BB 6 3/4s 2005	BBB+	125	7.55%
Deb 'A' 7s 2006	BBB	150	7.56%
<u>Hawaiian Telephone Co (Now GTE Hawaiian Tel)</u>			
1st R 5 5/8s '97	BBB+	16.0	6.16%
1st S 6 3/4s '98	BBB+	20.0	6.66%

GTE Bond Yields

	S&P DEBT RATING	Debt Outstanding at Par (mil \$)	Yield to Maturity
1st U 8s 2001	BBB+	20.0	7.76%
1st V 8 1/2s 2006	BBB+	35.0	8.23%
<u>GTE North Inc.</u>			
1st 8 1/2s 2031	AA	250	8.34%
Deb 'A' 6s 2004	AA	250	7.28%
Deb 'B' 5 1/2s '99	AA	200	6.64%
<u>General Tel. Illinois (Now GTE North)</u>			
1st 8 1/2s 2000	AA	26.0	8.01%
1st 7 1/2s 2002	AA	20.0	7.47%
1st 8 1/4s 2003	AA	16.7	7.82%
<u>General Tel. Indiana (Now GTE North)</u>			
1st 6 3/8s '98	AA	17.0	6.58%
1st 7 1/2s 2001	AA	17.9	7.53%
1st 8s 2003	AA	24.6	7.97%
<u>General Tel. Michigan (Now GTE North)</u>			
1st 7 1/2s 2001	AA	18.0	7.53%
1st 7 5/8s 2003	AA	20.0	7.67%
1st 8 1/2s 2006	AA	25.0	8.06%
<u>General Tel. Midwest (Now GTE North)</u>			
1st F 7 1/2s 2001	NR (was AA)	11.0	7.53%
1st G 7 5/8s 2003	NR (was AA)	13.0	7.67%
1st I 8 1/8s 2007	NR (was AA)	20.0	8.04%
<u>General Tel. Ohio (Now GTE North)</u>			
1st 7 5/8s 2001	AA	20.0	7.56%
1st 7 5/8s 2002	AA	19.9	7.62%
<u>General Tel. Pennsylvania (Now GTE North)</u>			
1st I 8s 2003	AA	24.8	7.90%
1st O 8 7/8s 2026	AA	75.0	8.54%
<u>General Tel. Wisconsin (Now GTE North)</u>			
1st 7 1/8s '99	AA	12.9	7.01%
1st 7 1/8s 2001	AA	15.0	7.29%
1st 7 1/2s 2002	AA	24.5	7.55%
1st 7 3/4s 2003	AA	25.0	7.72%
1st 8 3/4s 2026	AA	45.0	8.33%
<u>GTE Northwest (was Gen'l Tel. Northwest)</u>			
1st FF 6 1/8s '99	A+	125	6.67%
Deb A 7 3/8s 2001	A	200	7.12%

GTE Bond Yields

	S&P DEBT RATING	Debt Outstanding at Par (mil \$)	Yield to Maturity
Deb B 7 7/8s 2026	A	175	7.92%
<u>General Tel. Northwest (Now GTE Northwest)</u>			
1st U 7 7/8s 2002	A+	20.0	7.73%
1st W 8 1/4s 2007	A+	48.0	8.11%
1st BB 8 3/4s 2016	A+	125	8.36%
<u>GTE South Inc.</u>			
Deb 6 1/4s '97	A+	75.0	6.34%
Deb 7 1/4s 2002	A+	150	7.04%
Deb 'C' 6s 2008	A+	125	7.24%
Deb 'D' 7 1/2s 2026	A+	250	7.92%
<u>General Tel. Kentucky (merged w/GTE South)</u>			
1st 7 3/4s 2003	A+	10.9	7.46%
<u>General Tel. South (Now GTE South Inc., was Gen'l Tel Southeast)</u>			
1st T 8s 2003	A+	20.8	7.79%
1st U 7 5/8s 2002	A+	21.0	7.62%
Weighted Average:			7.57%

Source: Standard & Poor's Bond Guide, August 1996

SNET Bond Yields

	S&P DEBT RATING	Debt Outstanding at Par (mil \$)	Yield to Maturity
<i>Southern New England Tel</i>			
Deb 4 3/4s 2001	AA	45	7.05%
M-T Nts 'A' 8.70s 2031	AA	80	8.57%
M-T Nts 'C' 6 1/8s 2003	AA	200	7.19%
M-T Nts 'C' 7 1/4s 2033	AA	245	7.86%
M-T Nts '2' 6 1/2s 2000	AA	100	6.82%
M-T Nts '2' 7s 2005	AA	200	7.34%
		Weighted Average:	7.49%

Source: Standard & Poor's Bond Guide, August 1996

**3-Stage DCF Model Estimates of Cost of Equity
For Telephone Holding Companies**

Company	Stock Price as of 7/31/96	Annualized Dividend for 1996	5-year I/B/E/S Forecast Growth Rate	Sustainable Growth Rate	COST OF EQUITY		
					15-yr Linear Convergence	Weighted Average Excluding Company	Cost of Equity
Ameritech	\$55.50	\$2.12	9.30%	5.61%	11.14%	11.23%	11.21%
Bell Atlantic	\$59.13	\$2.86	8.00%	5.61%	11.83%	11.14%	11.31%
BellSouth	\$41.00	\$1.45	7.90%	5.61%	10.19%	11.44%	11.13%
NYNEX	\$44.88	\$2.36	6.60%	5.61%	11.64%	11.18%	11.29%
Pacific Telesis	\$33.63	\$1.49	3.80%	5.61%	9.58%	11.33%	10.90%
SBC Communications	\$48.88	\$1.72	9.70%	5.61%	10.90%	11.26%	11.17%
U.S. West	\$30.38	\$2.14	6.10%	5.61%	13.33%	11.07%	11.64%
ALLTEL	\$27.38	\$1.06	10.90%	5.61%	11.95%	11.20%	11.39%
Cincinnati Bell	\$48.63	\$0.80	14.50%	5.61%	9.56%	11.24%	10.82%
GTE	\$41.13	\$1.88	8.70%	5.61%	11.84%	11.08%	11.27%
SNET	\$38.63	\$1.76	7.90%	5.61%	11.44%	11.21%	11.27%
VALUE-WEIGHTED AVERAGE:					11.22%		

Sources: Dow Jones News Retrieval; Value Line, Inc.; I/B/E/S.

Estimated Betas For the Comparable Companies
(60 Monthly Observations -- Period Ending 7/31/96)

Ticker Symbol	Company	Levered Beta ¹	Unlevered Beta	Re-levering of Average Unlevered Beta Using Company's Capital Structure
AIT	Ameritech	0.92	0.81	0.80
BEL	Bell Atlantic	0.80	0.66	0.84
BLS	BellSouth	0.82	0.70	0.82
NYN	NYNEX	0.78	0.60	0.92
PAC	Pacific Telesis	1.10	0.88	0.88
SBC	SBC Communications	0.73	0.63	0.81
USW	U.S. West	0.88	0.63	0.97
AT	ALLTEL	0.66	0.54	0.86
CSN	Cincinnati Bell	0.74	0.67	0.77
GTE	GTE	0.90	0.73	0.86
SNG	SNET	0.75	0.55	0.95
	Assumed Tax Rate:	36%		
Value-Weighted Average Unlevered Beta			0.70	

¹ The Levered Beta is measured relative to the S&P 500.

Sources: Dow Jones Beta Analytics and Attachment 8.

Risk Premium Computed from DCF Expected Market Return

	Expected Long- Run Yield As Of July 1996	Expected Return on Stock Market	Implied Risk Premium
1-Month Treasury Bill	5.4%	11.32%	5.92%
20-Year Treasury Bond	7.1%	11.32%	4.22%

Sources: I/B/E/S; Ibbotson Associates; The WEFA Group.

Expected Long-Run One-Month Treasury Bill Yield For July 1996

Calculation of Historical Term Premium for Long-Term Treasury Bonds over One-Month Treasury Bills

<u>Average Long-Term Treasury Bond Return</u>	-	<u>Average One-Month Treasury Bill Return</u>	=	<u>Historical Term Premium</u>
5.5%		3.8%		1.7%

Estimation of Long-Run Treasury Bill Yield Based on Historical Term Premium

<u>Long-Term Treasury Bond Yield July 1996</u>	-	<u>Historical Term Premium</u>	=	<u>Long-Run Expected Treasury Bill Yield July 1996</u>
7.1%		1.7%		5.4%

Sources: Federal Reserve Weekly Bulletin.

Stock Market Premium Analysis

<u>Year</u>	<u>S&P 500 Returns</u>	<u>One-month Treasury Bill Returns</u>	<u>Long-Term Treasury Bond Total Returns</u>	<u>Long-Term Treasury Bond Income Returns</u>
1926	11.61%	3.27%	7.77%	3.73%
1927	37.48%	3.13%	8.94%	3.41%
1928	43.61%	3.23%	0.08%	3.22%
1929	-8.41%	4.74%	3.42%	3.48%
1930	-24.90%	2.43%	4.65%	3.32%
1931	-43.35%	1.09%	-5.32%	3.33%
1932	-8.20%	0.95%	16.84%	3.69%
1933	53.97%	0.30%	-0.07%	3.12%
1934	-1.43%	0.18%	10.02%	3.18%
1935	47.66%	0.14%	5.00%	2.81%
1936	33.92%	0.19%	7.50%	2.77%
1937	-35.02%	0.29%	0.22%	2.66%
1938	31.14%	-0.04%	5.51%	2.64%
1939	-0.42%	0.01%	5.95%	2.40%
1940	-9.78%	-0.02%	6.09%	2.23%
1941	-11.58%	0.04%	0.93%	1.94%
1942	20.33%	0.28%	3.22%	2.46%
1943	25.91%	0.35%	2.07%	2.44%
1944	19.73%	0.33%	2.82%	2.46%
1945	36.41%	0.32%	10.73%	2.34%
1946	-8.07%	0.36%	-0.09%	2.04%
1947	5.70%	0.50%	-2.63%	2.13%
1948	5.51%	0.81%	3.38%	2.40%
1949	18.79%	1.12%	6.44%	2.25%
1950	31.74%	1.22%	0.05%	2.12%
1951	24.02%	1.49%	-3.94%	2.38%
1952	18.35%	1.65%	1.16%	2.66%
1953	-0.98%	1.83%	3.63%	2.84%
1954	52.62%	0.86%	7.18%	2.79%
1955	31.54%	1.57%	-1.28%	2.75%
1956	6.56%	2.47%	-5.58%	2.99%
1957	-10.79%	3.15%	7.47%	3.44%
1958	43.37%	1.53%	-6.11%	3.27%
1959	11.98%	2.97%	-2.28%	4.01%
1960	0.46%	2.67%	13.79%	4.26%
1961	26.89%	2.12%	0.96%	3.83%
1962	-8.73%	2.72%	6.88%	4.00%
1963	22.78%	3.11%	1.21%	3.89%
1964	16.51%	3.53%	3.51%	4.15%
1965	12.45%	3.92%	0.70%	4.19%
1966	-10.05%	4.75%	3.64%	4.49%
1967	23.99%	4.20%	-9.19%	4.59%

Stock Market Premium Analysis

<u>Year</u>	<u>S&P 500 Returns</u>	<u>One-month Treasury Bill Returns</u>	<u>Long-Term Treasury Bond Total Returns</u>	<u>Long-Term Treasury Bond Income Returns</u>
1968	11.08%	5.22%	-0.26%	5.50%
1969	-8.49%	6.57%	-5.07%	5.95%
1970	4.03%	6.52%	12.10%	6.74%
1971	14.32%	4.39%	13.24%	6.32%
1972	18.98%	3.84%	5.67%	5.87%
1973	-14.67%	6.93%	-1.10%	6.51%
1974	-26.46%	8.01%	4.35%	7.27%
1975	37.21%	5.80%	9.19%	7.99%
1976	23.85%	5.08%	16.76%	7.89%
1977	-7.18%	5.13%	-0.65%	7.14%
1978	6.57%	7.20%	-1.18%	7.90%
1979	18.42%	10.38%	-1.21%	8.86%
1980	32.41%	11.26%	-3.96%	9.97%
1981	-4.91%	14.72%	1.86%	11.55%
1982	21.41%	10.53%	40.37%	13.50%
1983	22.51%	8.80%	0.69%	10.38%
1984	6.27%	9.78%	15.54%	11.74%
1985	32.17%	7.73%	30.96%	11.25%
1986	18.47%	6.15%	24.45%	8.98%
1987	5.23%	5.46%	-2.70%	7.92%
1988	16.81%	6.36%	9.68%	8.97%
1989	31.49%	8.38%	18.10%	8.81%
1990	-3.17%	7.81%	6.20%	8.19%
1991	30.55%	5.60%	19.26%	8.22%
1992	7.67%	3.51%	8.05%	7.26%
1993	9.99%	2.90%	18.24%	7.17%
1994	1.31%	3.90%	-7.77%	6.59%
1995	37.43%	5.60%	31.67%	7.60%

Source: Ibbotson Associates.

Stock Market Premium Analysis

<u>Year</u>	<u>S&P 500 Returns</u>	<u>One-month Treasury Bill Returns</u>	<u>Long-Term Treasury Bond Total Returns</u>	<u>Long-Term Treasury Bond Income Returns</u>
<u>Period</u>	<u>Arithmetic Average</u>	<u>Arithmetic Average</u>	<u>Arithmetic Average</u>	<u>Arithmetic Average</u>
26-95	12.52%	3.76%	5.54%	5.16%
51-95	13.43%	5.29%	6.32%	6.50%
71-95	13.47%	7.01%	10.23%	8.55%

<u>Period</u>	<u>Stock Premium Over Bills</u>	<u>Stock Premium Over Bond Total Returns</u>	<u>Stock Premium Over Bond Income Returns</u>
26-95	8.76%	6.98%	7.36%
51-95	8.14%	7.11%	6.93%
71-95	6.46%	3.24%	4.91%

<u>Year</u>	<u>S&P 500 Returns</u>	<u>One-month Treasury Bill Returns</u>	<u>Long-Term Treasury Bond Total Returns</u>	<u>Long-Term Treasury Bond Income Returns</u>
<u>Period</u>	<u>Geometric Average</u>	<u>Geometric Average</u>	<u>Geometric Average</u>	<u>Geometric Average</u>
26-95	10.54%	3.71%	5.17%	5.12%
51-95	12.17%	5.25%	5.80%	6.47%
71-95	12.22%	6.98%	9.58%	8.54%

<u>Period</u>	<u>Stock Premium Over Bills</u>	<u>Stock Premium Over Bond Total Returns</u>	<u>Stock Premium Over Bond Income Returns</u>
26-95	6.83%	5.38%	5.42%
51-95	6.92%	6.37%	5.70%
71-95	5.24%	2.64%	3.68%

Source: Ibbotson Associates.

**Model Estimates of Cost of Equity
For RBOC's, GTE and SNET**

Company	COST OF DEBT	DCF Weighted Cost of Equity	Beta	CAPM Cost of Equity			COST OF EQUITY (AVERAGE of DCF and CAPM Average)
				1-month Treasury Bills	20-yr Treasury Bonds	Average	
Ameritech	7.46%	11.21%	0.80	11.40%	11.50%	11.45%	11.33%
Bell Atlantic	7.41%	11.31%	0.84	11.70%	11.72%	11.71%	11.51%
BellSouth	7.50%	11.13%	0.82	11.55%	11.61%	11.58%	11.35%
NYNEX	7.66%	11.29%	0.92	12.30%	12.16%	12.23%	11.76%
Pacific Telesis	7.58%	10.90%	0.88	12.00%	11.94%	11.97%	11.43%
SBC Communications	7.50%	11.17%	0.81	11.48%	11.56%	11.52%	11.34%
U.S. West	7.64%	11.64%	0.97	12.68%	12.44%	12.56%	12.10%
GTE	7.57%	11.27%	0.86	11.85%	11.83%	11.84%	11.56%
SNET	7.49%	11.27%	0.95	12.53%	12.33%	12.43%	11.85%

Capital Structure of Telephone Holding Companies

Company	Short-Term Debt	Long-Term Debt	BASED ON BOOK VALUE			BASED ON MARKET VALUE		
			Total Debt	Preferred Stock	Common Equity	Total Debt	Preferred Stock	Common Equity
Ameritech	16%	33%	49%	0%	51%	18%	0%	82%
Bell Atlantic	13%	42%	55%	1%	44%	24%	0%	76%
BellSouth	13%	35%	48%	0%	52%	21%	0%	79%
NYNEX	3%	59%	62%	0%	38%	33%	0%	67%
Pacific Telesis	18%	56%	74%	0%	26%	29%	0%	71%
SBC Communications	12%	42%	54%	0%	46%	20%	0%	80%
U.S. West	11%	42%	53%	0%	47%	38%	0%	62%
ALLTEL	1%	47%	48%	0%	52%	26%	0%	74%
Cincinnati Bell	13%	39%	52%	0%	48%	14%	0%	86%
GTE	10%	58%	68%	0%	32%	27%	0%	73%
SNET	13%	67%	80%	0%	20%	36%	0%	64%
Value-Weighted Average:			57%	0%	43%	25%	0%	75%

Sources: Companies' SEC Forms 10-K for 1995; market value of common equity based on closing stock price at July 31, 1996.

**Model Estimates of Cost of Capital
For RBOC's, GTE and SNET**

Company	WEIGHTED AVERAGE COST OF CAPITAL (WACC)		
	MIN	MIDPOINT	MAX
Ameritech	9.12%	9.74%	10.36%
Bell Atlantic	9.17%	9.83%	10.49%
BellSouth	9.16%	9.77%	10.39%
NYNEX	9.42%	10.08%	10.74%
Pacific Telesis	9.24%	9.85%	10.47%
SBC Communications	9.15%	9.77%	10.38%
U.S. West	9.56%	10.27%	10.98%
GTE	9.28%	9.92%	10.56%
SNET	9.36%	10.06%	10.76%

**FIRST
ADDENDUM**

TO

**ESTIMATING THE COST OF CAPITAL
OF LOCAL TELEPHONE COMPANIES
FOR THE PROVISION OF NETWORK ELEMENTS**

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January 1997

FIRST ADDENDUM

**ESTIMATING THE COST OF CAPITAL
OF LOCAL TELEPHONE COMPANIES
FOR THE PROVISION OF NETWORK ELEMENTS**

Market Risk Premium

The historical risk premium is defined as the historical difference between the return on the stock market and the risk-free rate. The proper estimate of the market risk premium is a question that is disputed among both academics and practitioners with regard to two primary issues. First, when analyzing historical data, should an arithmetic or geometric average be used to calculate the historical average risk premium? Second, over what period should the average be computed? Specifically, should the entire sample period back to 1802 be used, should the sample period be limited to post-1926 when more complete data became available, or should only post-war data be employed because the role of government in the economy has changed fundamentally since the Great Depression?

With regard to the type of average, most academic authors favor the arithmetic over the geometric. However, influential practitioners, most notably McKinsey & Company, recommend using the geometric average because arithmetic averages are biased by the measurement period.¹

¹ Copeland, Tom, Tim Koller and Jack Murrin, *Valuation: Measuring and Managing the Value of Companies*,

With regard to the sample period for computing the average risk premium, Ibbotson argues that a long data series is required so that the equity risk premium is not unduly influenced by very good or very poor short-term results. The 1996 Yearbook published by Ibbotson Associates suggests that the post-1926 data compiled therein provides a representative period of returns that can occur under diverse economic circumstances.² However, Ibbotson has recently cautioned that the long-run stock market returns calculated by his firm may not prove predictive. He believes that the U.S. is not as risky as it was in 1925, suggesting that lower returns will be experienced in the future. Ibbotson also suggests that his historical averages overstated the forward-looking cost of equity because of survivorship bias.³ For example, the U.S. stock market survived despite the Great Depression and the Second World War. As of 1925, however, there existed a risk that the stock market would be entirely wiped out- as happened in Germany, Japan, China and Russia. If these countries were included in an average, historical returns would be much lower.⁴

Siegel also presents convincing evidence that the risk premium was abnormally high during the period since 1926 when analyzed in relation to sample data going back to 1802. He notes that the current equity premium appears to be returning to the 2 - 3 percent range that existed

Wiley and McKinsey & Company, New York, NY, 1995, at p. 260.

² *Stocks, Bonds, Bills and Inflation, 1996 Yearbook*, Ibbotson Associates, Chicago, Illinois.

³ Clements, Jonathan, *Getting Going, Keeping Perspective: Lower Expectations May Bring Happier Long-Term Results*, *The Wall Street Journal*, November 26, 1996

⁴ Brown, Stephen J., William N. Goetzmann and Stephen A. Ross, "Survival", *The Journal of Finance*, Vol. L, No. 3, July 1995

before the two World Wars.⁵ Finally, Blanchard presents evidence that the risk premium has declined to 2 - 3 percent in recent years and argues that either the DCF approach should be employed in place of relying on an average or more recent data should be used.⁶

Based on the information reviewed after the issuance of the original paper, Attachment BC-8 has been updated and is presented in Add-1. My conclusion remains that the best estimates of the market risk premium are 7.5 percent over one-month Treasury bills and 5.5 percent over 20-year Treasury bonds. These estimates are conservative (i.e., on the high side) in the sense that they are above the average premiums observed in a majority of the periods, including the full sample, and are greater than those implied by the DCF analysis.

Public Comments of Bell Atlantic Regarding Benefits to be Derived from the Provision of Network Elements to Competitive Local Exchange Companies

At Bell Atlantic's Internet site, it has stated that the business of providing network elements represents a revenue opportunity for the company, in that there would now be many more users of its network without the need to make additional capital expenditures. Bell Atlantic's statements to the public indicate that the network element leasing business is subject to much less risk than its retail local exchange business in the environment created by the Telecommunications Act of 1996.

⁵ Siegel, Jeremy, *Stocks for the Long Run*, Irwin, New York, NY., 1994

⁶ Blanchard, Oliver, "Movements in the Equity Premium", *Brookings Papers on Economic Activity*, 75 (2), 1993

Flotation Cost Adjustments

The common stocks of the large telephone holding companies trade in efficient markets. As part of the process of arriving at the day-to-day prices for such stock, the market anticipates future events that affect the cash flows that the telephone companies will earn. This process clearly includes the anticipation of future cash expenditures, including financing costs for both debt and equity that reduce company cash flows. Because the stock price has already accounted for flotation costs, an estimation of the cost of equity using the DCF model accurately reflects the required return of investors. Adding a flotation cost adjustment would, in effect, double count the cost of financing.

This can be distinguished from the regulatory treatment of flotation costs. In the regulatory context, a main purpose is to identify costs that can be charged back to the ratepayers by the telephone operating companies. Equity flotation costs have often been disallowed because it would not be fair to burden current ratepayers with all of those costs if the equity capital would be utilized indefinitely. One way that parties have tried to “amortize” these costs so that they could be recovered by the telephone company is to make the flotation cost adjustment to the allowed return, which would in effect charge it back to ratepayers perpetually in very small increments.

This is not the issue for proceedings to develop the forward-looking economic costs of

unbundled elements. In this case, we are interested in the forward-looking cost of capital that fairly compensates for the riskiness of the business in the eyes of the market. The market has already accounted for flotation costs, whether or not a flotation cost adjustment is made for regulatory accounting purposes. It should also be noted that the FCC did not allow flotation costs in its order FCC 90-315 where it represetribed a rate of 11.25% for interstate access to services of LECs.⁷

In addition to the foregoing, there are two practical reasons why a flotation cost adjustment is not appropriate for telephone holding companies. First, aside from some minor stock issuances through dividend reinvestment plans, the companies have not issued common stock (or issued only minor amounts) over the past five years. Given the high level of equity in their market capital structures, there is no reason to expect large equity financings in the foreseeable future. Second, even if they intend to make large equity offerings, the companies have made the discretionary decision to pay large dividends to their shareholders. These dividends could be used to finance projects, thereby avoiding the need to issue new shares. Given this, it does not appear that the CLECs should be charged a premium if the telephone companies decide to raise capital with external instead of internal funds.

⁷ CC Docket No. 89-624, In the Matter of Represetribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers, Adopted September 19, 1990, 5 FCC Rcd No. 25, FCC 90-315.

Market and Book Capital Structures

Normally, the market value capital structure should be used to determine the cost of capital for the business in question. However, the business under consideration is the provision of network elements to CLECs. This is a distinctly different, and far less risky, business than the overall combined businesses of the publicly traded telephone holding company.

The book value of equity for the holding companies approximates a capital structure that may better reflect the risks of the network element leasing business. At the time the equity proceeds were recorded on the books at what was then the market value, the telephone holding companies were more focused on the traditional monopolistic local exchange business. This is closer to the business of leasing unbundled network elements than the various high-risk being endeavors undertaken today. Because the goal of this proceeding is to establish fair prices for network elements provided to CLECs, the forward-looking economic costs for unbundled elements should not include a reward for the risks of businesses not involved in network element leasing.

Telephone Operating Companies' Assessments of Discount Rates and Relative Business Risks

In the case of Bell Atlantic/NYNEX, their merger proxy statement indicates that, for purposes of valuing the two companies for exchange, Merrill Lynch employed discount rates

of 8-10 percent for local telephone service, 10-12 percent for long distance and 10-14 percent for the cellular business.

Use of Annual Instead of Quarterly Compounded Dividends in the DCF Cost of Capital Model

Telephone operating companies are able to reinvest their cash flows on an approximate monthly basis. If the Commissions allow a rate which is estimated using an annual DCF model, the companies get an effective rate higher than the allowed rate because of monthly compounding. Consequently, it would be entirely inappropriate to calculate the DCF cost of equity on a quarterly compounding basis, since this would give the companies the benefit of both quarterly and monthly compounding.

DCF Costs of Equity Calculated as of 12/31/96

For comparison purposes, exhibit Add-2 shows the DCF costs of equity calculated at both 7/31/96 and 12/31/96. In general, the costs of equity have declined since 7/31/96. This provides some evidence that the costs of capital estimates presented in the original paper are for most of the companies conservatively high.

Stock Market Premium Analysis

<u>Year</u>	<u>Stock Returns</u>	<u>One-month Treasury Bill Returns</u>	<u>Long-Term Treasury Bond Total Returns</u>
<u>Period</u>	<u>Arithmetic Average</u>	<u>Arithmetic Average</u>	<u>Arithmetic Average</u>
1802-1995	9.60% ⁽¹⁾	4.30%	5.04%
1926-1995	12.52% ⁽²⁾	3.76%	5.54%
1951-1995	13.43% ⁽²⁾	5.29%	6.32%
1971-1995	13.47% ⁽²⁾	7.01%	10.23%

<u>Period</u>	<u>Stock Premium Over Bills</u>	<u>Stock Premium Over Bond Total Returns</u>
1802-1995	5.31%	4.56%
1926-1995	8.76%	6.98%
1951-1995	8.14%	7.11%
1971-1995	6.46%	3.24%

<u>Year</u>	<u>Stock Returns</u>	<u>One-month Treasury Bill Returns</u>	<u>Long-Term Treasury Bond Total Returns</u>
<u>Period</u>	<u>Geometric Average</u>	<u>Geometric Average</u>	<u>Geometric Average</u>
1802-1995	8.21% ⁽¹⁾	4.20%	4.82%
1926-1995	10.54% ⁽²⁾	3.71%	5.17%
1951-1995	12.17% ⁽²⁾	5.25%	5.80%
1971-1995	12.22% ⁽²⁾	6.98%	9.58%

<u>Period</u>	<u>Stock Premium Over Bills</u>	<u>Stock Premium Over Bond Total Returns</u>
1802-1995	4.01%	3.39%
1926-1995	6.83%	5.38%
1951-1995	6.92%	6.37%
1971-1995	5.24%	2.64%

⁽¹⁾ Jeremy J. Siegel, "Stocks for the Long-Run", (New York: Irwin), 1994.

⁽²⁾ Ibbotson Associates.