



**Lisa Akins, CFA**  
Sr. Director, Tax  
Level 3 Communications, LLC  
1025 Eldorado Boulevard  
Broomfield, CO 80021

TEL: (720) 888-7765  
lisa.akers@level3.com

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Vicki L. Duncan  
Revenue Administrator  
Oklahoma Tax Commission  
3700 North Classen Blvd, Suite 200  
Oklahoma City OK 73118-2860

Dear Ms. Duncan:

I have reviewed the preliminary Capitalization Rate Study prepared by the Oklahoma Tax Commission and have several comments concerning the results of the study as they relate to the 2016 valuation of Level 3 Communications LLC.

The attached page summarizes the major differences between the components of the Tax Commission's Capitalization rate and the rate determined by AUS Consultants for Level 3 Communications.

If you would like to discuss my comments in greater detail please let me know. I appreciate the opportunity to provide input concerning the Tax Commission's Cost of Capital Study.

Sincerely,

A handwritten signature in blue ink that reads "Lisa Akins".

Lisa Akins

Enclosures

	OK Tax Commission	AUS Cost of Capital
WACC	9.77%	12.98%
Capital Structure		
-Debt	36.60%	38%
-Equity	63.40%	62%
Beta	1.04	1.40 (1)
Equity Rate	12.55%	14.64%
After flotation costs	12.55%	15.20% (2)
After Illiquidity adjustment	12.55%	16.23% (3)
Debt Rate	5.03%	7.62% (4)
After flotation costs	5.03%	7.69%

(1) The Tax Commission's beta under estimates the risk associated with Level 3. The list of companies used by the Tax Commission are not comparable to Level 3 in business risk, size, safety, cash flow or product mix.

(2) Flotation costs are a necessary addition to reflect the true cost of equity.

(3) An illiquidity adjustment as explained in the attached article, "Adjusting Discount Rates to Reflect Illiquidity", is a required addition to reflect the true cost of equity capital.

(4) 7.62% accurately reflects the S & P "B" rated bonds yields for the universe of "B" rated bonds.

## BROADBAND INDUSTRY REQUIRED RETURN

for

Level 3 Communications, LLC.

The return required to entice a potential investor to make an investment in a property similar to that of Level 3 Communication, LLC. (Company) was estimated using the market costs of debt and equity at the January 1, 2016. Level 3 participates in the broadband inter-exchange carrier segment of the communications industry. The required return was based on the weighted cost of capital (WACC) method; wherein the market capital cost of debt and equity at January 1, 2016 are weighted based on the market capital structure typical of the industry. The inputs to the WACC required return determination are described in AUS Consultants' Required Return (Cost of Capital) Report for the Communications Industry and its Various Segments as of January 1, 2016, summarized below.

Debt Cost – The market cost of debt at the study date was determined based on review of financial information published by Standard and Poor's (S&P) in their January 2016 Bond Guide, the January 2016 Mergent Bond Record publication, and Yahoo Finance's Bond Screener. These sources were helpful in determining the typical debt rating for investments in broadband carrier assets to be a B S&P's corporate debt rating. The above sources were also useful in determining that the market cost of debt at the S&P B rating to be 7.62% at January 1, 2016. Debt issuance cost ( $f_d$ ) of 0.90% was determined based on analysis annual Public Utility Financing Tracker (PUFT) reports over the period 2008 through 2014 published by PUFT, Inc. The final market cost of debt of 7.69% was determined for the broadband segment of the communication industry using the following formula which incorporates the above described issuance costs:

$$K_d = K_u / (100\% - f_d)$$

where:

$K_d$  = Cost of Debt recognizing issuance costs

$K_u$  is the market cost of debt without consideration of issuance costs

$f_d$  is the cost of issuance as a percentage of the debt's par value

$$K_d = 7.62\% / (100\% - 0.90\%)$$

$$K_d = 7.69\%$$

Equity Cost – The cost of equity was evaluated using the Capital Asset Pricing Model (CAPM) which looks to market returns to quantify the cost equity capital.

Capital Assets Pricing Model (CAPM) - The CAPM method estimates the cost of equity capital by quantifying the premium, or additional return required to entice investors to purchase equities, over an investment in which the investors would receive riskless return like that from a long-term U.S. government security.

The mathematical form of the CAPM model is:

CAPM's cost of equity estimate  $r_e$ :

$$r_e = r_f + (B_c / B_m) * (r_p) + r_s + r_i \text{ where:}$$

In these equity cost estimating methods the risk premium of the entire market is defined as unity or  $B_m = 1.0$ ; while,  $B_c$  is an estimation of the subject company or industry's risk premium relative to the risk premium of the entire market. The  $B_c$  for the broadband industry was determined to be 1.4 based on the Value Line Investment Survey publication at year-end 2015.

#### Level 3 Betas

Source	Beta
Barrons	1.32
Google Finance	1.77
InFinancials	1.41
Morningstar	1.50
NASDAQ	1.29
Reuters	1.75
Yahoo Finance	1.37
Value Line	1.15
<b>Average</b>	<b>1.45</b>
<b>Median</b>	<b>1.39</b>
<b>Use</b>	<b>1.4</b>

The inputs to this model are developed from an analysis of the financial markets. The risk-free government securities rate ( $r_f$ ) is readily available from financial sources; we have used the risk-free rate at the study date of 5.02% as determined from the long-term income returns of government bonds over the period 1926 through 2015 as detailed on table A-7 in Ibbotson Associates' 2015 Yearbooks of Stocks, Bonds, Bills, and Inflation (SBBI). It was necessary to utilize this estimate of risk free rates as opposed to recent market risk free rates as those rates have been driven unrealistically low due to the United States Federal Reserve's bond purchasing programs over the last several years.

The risk premiums ( $r_p$ ) and size premiums ( $r_s$ ) were established based on analysis performed by Ibbotson Associates and published in their Ibbotson Associates' 2015 Stocks, Bonds, Bills, and Inflation (SBBI) Classic Edition Yearbook detailing the financial market returns of stocks, bonds, U.S. Treasury Bills, and Inflation for the period 1926 through 2014. As these capital cost estimates are required early in 2016, and the 2016 Classic Edition of the SBBI is not published until April of 2016, we have relied on Ibbotson's 2015 yearbook updating that information to year-end 2015 using information published by Morningstar online year-end financial market returns in making the cost of equity predictions.

The total market risk premium ( $r_p$ ) required to entice an investor to invest in equity securities over risk-free government securities was established at 6.87% based on the Ibbotson Associates research, while the size premiums ( $r_s$ ) were established at:

1.10% for mid-capitalization companies with market equity capitalization between \$2,542.913 and \$10,105.622 million.

1.77% for low-capitalization companies with market equity capitalization between \$548.839 and \$2,542.913 million.

3.69% for micro-capitalization companies with market equity capitalization under \$548.839 million.

There is no size premium (0.0%) for companies with market equity capitalization above \$10,105.622 million.

Cost of Equity Conclusion - Based on these procedures the cost of equity was found to be 13.50% determined as follows:

CAPM's cost of equity estimate  $r_e$ :

$$r_e = r_f + (B_c / B_m) * (r_p) \\ 5.02\% + (1.4 / 1) * 6.87\% = 14.64\%$$

Equity issuance cost ( $f_e$ ) of 3.70% was determined based on analysis annual Public Utility Financing Tracker (PUFT) reports over the period 2008 through 2014 published by PUFT, Inc. The final market cost of equity of 15.20% was determined for the broadband segment of the communication industry using the following formula which incorporates the above described issuance costs:

$$K_e = K_e' / (100\% - f_e)$$

where:

$K_e$  = Cost of equity recognizing issuance costs

$K_e'$  is the market cost of equity without consideration of issuance costs (12.56%)

$f_e$  is the cost of issuance as a percentage of the equity par value (3.70%)

$$K_e = 14.64\% / (100\% - 3.70\%)$$

$$K_e = 15.20\%$$

Ibbotson Size Premia ( $r_s$ ) – The Ibbotson size premium ( $r_s$ ) for the Company was determined to be 0.00%, i.e., a large-capitalization company, based on estimated market equity of \$18,084.27 million based on 356.27 million shares time a market price at the appraisal date of \$50.76 per share.

Liquidity Adjusted Risk Adjustment - As the purpose of this appraisal is to determine the market value of investment in Level 3 Communications' broadband inter-exchange network assets, a relatively illiquid asset when compared to the above described liquid assets of stocks and bonds constituting the inputs to the CAPM model as presented, the assets for which the required return of these analyses are directed require an additional

return to compensate the investor for the increased risk of the above described illiquidity. The above referenced AUS Consultants' Required Return study describes the background of the liquidity adjustment and presents PhD Heaton's paper, Adjusting Data from the Capital Markets to Value Real Property which references several sources concurring with the need for an liquidity, or more correctly, a adjustment for illiquidity to the results of the CAPM model. In these studies we utilized a liquidity premium of approximately 1.03%.

Combining the previously determined cost of equity estimate using the CAPM and DGM models of 15.20% with the above described Ibbotson Size premia ( $r_s=0.00\%$ ) and illiquidity risk adjustment ( $r_i$  (illiquidity) =1.03%) the resulting cost of equity of 16.23% for the inter-exchange communications industry determined as follows:

$$\begin{aligned}
 r_e &= r_e + r_s + r_i \\
 &= 15.02\% + 0.00\% + 1.03\% \\
 &= 16.23\%
 \end{aligned}$$

Weighted Required Return - Using the above described cost of debt and equity, the returned required for an investment in property similar to the Company's was determined to be 11.07% as follows:

Capital	Proportion	Cost of Capital	Tax Rate	Tax Affect	Weighted Cost of Capital
Debt	38%	7.69%	39.51%	60.49%	1.77%
Equity	62%	16.23%		100.00%	10.06%
Total	100%				11.83%

The statistics supporting these findings can be found in AUS Consultants' report entitled Cost of Capital Report for the Communications Industry and Its Various Segments, as of January 1, 2016.

Level 3 Communications, LLC

Cost of Capital  
As of January 1, 2016

Weighted Cost of Capital

Capital	Proportion	Cost of Capital	Tax rate	Tax affect	Weighted Cost of Capital	NOI
Debt	38%	7.69%	39.51%	60.49%	1.77%	2.92%
Equity	62%	16.23%	0.00%	100.00%	10.06%	10.06%
<b>Total</b>	<b>100%</b>				<b>11.83%</b>	<b>12.98%</b>
Inflation estimate	2.30%	2.30%				
Inflation Adjusted Discount Rate						
	After-tax	NOI				
Rate with Inflation	11.83%	12.98%				
multiplier	1.1183	1.1298				
Inflation	0.0230	0.0230				
multiplier	1.0230	1.0230				
Rate without Inflation	9.32%	10.44%				
	Federal	35.0%				
	State	6.9%				
	Composite	39.51%				

Level 3 Communications, LLC

Cost of Capital  
As of January 1, 2016

Cost of Debt	
Standard & Poor's Rating	B
Cost of Debt ( $K_D$ )	7.62%
Issuance Costs (f)	0.90%
$K_D = K_D / (1-f)$	
Debt Rate ( $K_D$ )	7.69%

Level 3 Communications, LLC

Cost of Capital  
As of January 1, 2016

Cost of Equity  
Capital Asset Pricing Model  
Equity Rate ( $K_e$ ) =  $K_f + (B_c/B_m) * K_p + K_s + K_i$

Risk/free ( $K_f$ )	5.02%
Equity premium ( $K_p$ )	6.87%
Market Beta ( $B_m$ )	1.00
Company Beta ( $B_c$ )	
Barrons	1.32
Google Finance	1.77
InFinancials	1.41
Morningstar	1.50
NASDAQ	1.29
Reuters	1.75
Yahoo Finance	1.37
Value Line	1.15
Mean of Beta <sub>c,s</sub>	1.45
Median of Beta <sub>c,s</sub>	1.39
Beta <sub>c</sub> Use	1.40
Equity Use	14.64%
Issuance Costs (f)	3.70% PUFT, Inc
$K_e = K_p/(1-f)$	
<b>Equity Rate (<math>K_e</math>)</b>	<b>15.20%</b>
Size Premium	
Shares Outstanding	356.27 million
Share price	50.76
<b>Equity Capital</b>	<b>18,084.27 million</b>
Ibbotson Size premia	
Micro cap under \$668.964 M	3.60%
Low Cap \$668.964 M to 2,722.247 M	1.49%
Mid Cap \$2,722.247 M to 10,297.299 M	0.98%
Large Cap over \$10,297.299 M	0.00%
<b>Company/Industry Size Premium</b>	<b>0.00% Use Large-cap</b>
Liquidity premia	
Equity premium	6.87%
Company/Industry Beta (Value Line)	1.15
r-Squared (Value Line)	0.3793
Correlation coefficient	0.616
Liquidity Adjusted beta	1.91
Company/Industry Risk premium	5.22%
Size premia	0.00%
Remove Size Premia	
Difference between Liquidity Adjusted and CAPM	5.22%
Percentage of Liquidity Adjustment to apply	20%
Liquidity Adjustment	1.03%
<b>Liquidity Adjusted Equity</b>	<b>1.03%</b>
<b>Equity Rate (<math>K_e</math>)</b>	<b>16.23%</b>

Level 3 Communications, LLC

Cost of Capital  
As of January 1, 2016

Capital Structure

Debt	38%
Equity	62%
Total	100%

Tax Rate 39.51%

Inflation

Year	Inflation	Rolling Average
1992	2.90%	2.90%
1993	2.75%	2.83%
1994	2.67%	2.77%
1995	2.54%	2.72%
1996	3.32%	2.84%
1997	1.70%	2.65%
1998	1.61%	2.50%
1999	2.68%	2.52%
2000	3.39%	2.62%
2001	1.55%	2.51%
2002	2.38%	2.50%
2003	1.88%	2.45%
2004	3.26%	2.51%
2005	3.42%	2.58%
2006	2.54%	2.57%
2007	4.08%	2.67%
2008	0.09%	2.52%
2009	2.72%	2.53%
2010	1.50%	2.47%
2011	2.96%	2.50%
2012	1.74%	2.46%
2013	1.50%	2.42%
2014	0.76%	2.35%
2015	1.22%	2.30%
Use		2.30%