April 5, 2023

LUMEN®

Ms. Angie Haller
Lead Utility Appraiser
Business Tax & Valuation Bureau
Montana Department of Revenue
PO Box 7149
Helana, MT 59604-7149

Dear Ms. Haller,

Re: Comments on the 2023 Capitalization Rate Study, Small and Medium Telecommunications

We've reviewed your 2023 small and medium telecommunications industry capitalization rate and wish to highlight the following:

A. COST OF EQUITY

Cost of equity calculations can be at times constrained in the communications industry depending on the guideline companies utilized and whether they are dividend payers and/or if they have reliable betas. Given this, we suggest giving some consideration to Build Up method results as another indicator of the cost of equity. Results of the Dividend Growth Models ("DGM" or "DCF") may appear low or distorted due to some companies not paying dividends. A more sustainable approach would be to base the DGM/DCF growth rate based on change in earnings, which also accounts for distortions resulting from share buybacks.

Based on the current draft's estimated cost of equity and debt, the spread between the two is 395 basis points which seems low compared to general historical averages of returns on large company stocks versus corporate bonds of 430 to 590 basis points depending on measurement period (1926 or 1963 to present).

B. COST OF DEBT

We noted a missing rating for Shenandoah Telecom used as one of the guidelines companies used in the study. Shenandoah Telecom would mostly likely attain 'B' or 'CCC'/'CC' credit rating in line with industry trends. As such, a more reflective cost of debt is as per your median calculation 7.71% or higher.

Charts 1 and 2 from Standard and Poor's (S&P) Global Ratings *Industry Top Trends 2023: Telecommunications*[1] of January 23, 2023 show that North American communications (telecommunications, cable and satellite) company ratings start at 'A-', with the bulk of companies falling between 'BB+' to 'B-'. About 90% of U.S. telecom and cable issuers are speculative grade, including almost 67% in the 'B' or 'CCC'/'CC' categories. About 88% of U.S. telecom and cable issuers are speculative grade, including two-thirds in the 'B' or 'CCC'/'CC' categories. Ratings in these categories largely reflect secular industry declines, intense competition, debt-financed M&A, and, in some cases, refinancing risk.

U.S. wireline operators that are deploying FTTH have substantial return on capital hurdles to meet considering the significant upfront investments required for fiber. Ultimately, we believe FTTH will need to discount its internet service to attract new customers but the capital-intensive nature of fiber limits pricing flexibility to some degree. We believe this is especially true considering that the clearest pathway to adequate returns on FTTH investments is to monetize demand for faster internet by increasing ARPU over time. And, higher interest costs are likely to make it challenging to meet these return thresholds.

Higher interest costs may force the wirelines to scale back their capex to conserve cash flow but not investing will leave their legacy copper-based broadband service exposed to ongoing market share losses. On the other hand, if capex remains elevated, FOCF deficits could be greater than anticipated over the next year, putting the most leveraged capital structures in a vulnerable position.

Despite the dearth of affordable data on costs of debt, making adaptions to Prof. Aswath Damodaran's synthetic bond rating model, as shown on his website http://pages.stern.nyu.edu/~adamodar/ can give us representative costs of debt, more so for companies with no credit ratings or those with 'junk' credit ratings.

Chart 1
Ratings distribution

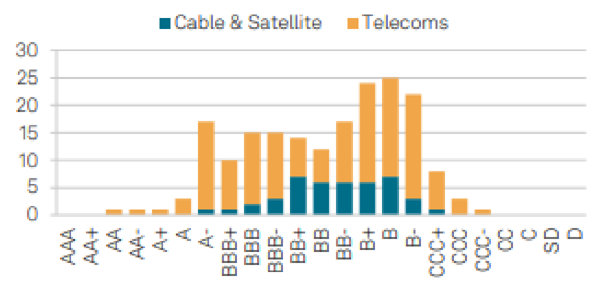
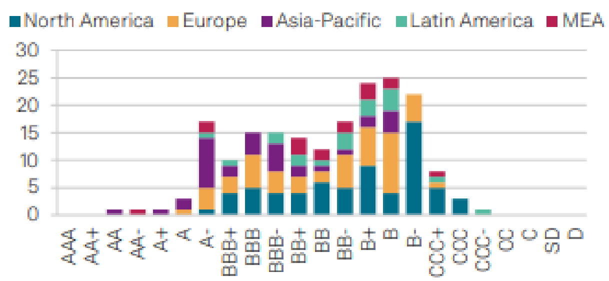


Chart 2
Ratings distribution by region



[1] https://www.spglobal.com/_assets/documents/ratings/research/101571731.pdf

C. OVERALL WEIGHTED AVERAGE COST OF CAPITAL

Considering our comments would result in an upward movement to the estimated weighted average cost of capital which would be warranted when applying the rate to a company with the riskiness of Lumen.

Earlier on, we sent you a copy of Kroll's 2023 Communications Wireline Cap Rate (Small & Mid Cap) report showing a WACC of 11.20%, pre-tax debt. Our recommendation is that a cap rate of 11% or higher is adopted for the predominantly wireline communication companies.

F. OTHER OBSERVATIONS

We would like to highlight that there are other Lumen specific issues that are not addressed by having an overall telecommunications industry cap rate. These matters can be discussed with you later.

Thank you for considering Lumen's submission.

Sincerely,

Bwembya Chikolwa