

Staff's Revenue Requirement Cost of Service Report
filed on December 5, 2014 in
Case No. ER-2014-0258

Filed
March 23, 2015
Data Center
Missouri Public
Service Commission

At Page 33 after line 10 – preceding line 11

1 c. **The Multi-stage DCF**

2 i. **Overview**

3 The constant-growth DCF model may not yield reliable results if industry and/or
4 economic circumstances cause expected near-term growth rates to be inconsistent with
5 sustainable perpetual growth rates.¹ Consequently, as in the last rate case, Staff again performed
6 a multi-stage DCF analysis in this case and is relying primarily on this analysis to draw
7 conclusions on the change in the cost of common equity since the last rate case because the
8 multi-stage DCF is dynamic enough to consider changes in near-term growth rates, but still
9 maintain a consistent perpetual growth rate as this rate should not change much, if any, because
10 there have been no structural changes in the economy or industry to support it.

11 A multi-stage DCF may use either two or more growth stages, depending on the situation
12 being modeled. In any case, the last stage must use a sustainable rate as it is considered to last
13 into perpetuity. In fact, in Staff's experience, most DCF analyses do not assume a growth rate
14 much higher than the expected rate of inflation, currently 2.0% to 2.5%. The ability of a multi-
15 stage DCF analysis to reliably estimate the cost of common equity is primarily driven by the
16 analyst using a reasonable growth rate for the final stage because this rate is assumed to last into
17 perpetuity. Where three stages are used, the second stage is generally a transitional phase
18 between the high growth first stage and the constant growth final stage.²

19 In the present case, Staff used a three-stage DCF approach, the stages being years 1-5,
20 years 6-10, and years 11 to infinity.³ For stage one, Staff gave full weight to the analysts'
21 five-year EPS growth estimates. Staff adopts these EPS estimates for the first stage of its model,

¹ Dr. Aswath Damodaran, Professor of Finance of the New York University Stern School of Business, advocates using a multi-stage methodology if the constant-growth rate is expected to be 1-2% different than the earlier stage growth rates. Aswath Damodaran, *Investment Valuation: Tools and techniques for determining the value of any asset*, University Edition, John Wiley & Sons, Inc., 1996, p. 193.

² John D. Stowe, Thomas R. Robinson, Jerald E. Pinto and Dennis W. McLeavey, *Analysis of Equity Investments: Valuation*, Association for Investment Management and Research, 2002, p. 71-72.

³ In practice, Staff extended the third stage only to year 200.

Staff Exhibit No. 245
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1 | because Staff understands that these projections are designed to represent expectations over this
2 | same 5-year period. For stage two, Staff linearly reduced the growth rate from the stage one
3 | level to the constant-growth third stage level, in which Staff assumed a perpetual growth rate
4 | range of 3.00% to 4.00%; mid-point 3.50% (*see* Schedules 14-1 through 14-3). Based on this set
5 | of assumptions, Staff's estimated cost of equity for both the broad and refined proxy group
6 | ranges from approximately 7.60% to 8.40%, mid-point of 8.00%.