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Claywell: Do not project historical data forward when your valuation date is a “stub year”

J. Richard Claywell, CPA recently wrote in NACVA’s *Ambassadors’ QuickRead*:

Valuators commonly need to perform a valuation using a “stub year,” or a date other than the company’s year end. This requires forecasting projected future company operations. It’s critical when performing this forecast that valuers not project historical data forward, and instead perform a new assessment for the new year.

In his article “[Tips for Valuers](#),” Claywell provides a real-world example of “a misperformed valuation showing how dramatically this kind of error effects a calculation of net present value.”



Tips for Valuers

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Summary: Valuers commonly need to perform a valuation using a “stub year,” or a date other than the company’s year end. This requires forecasting projected future company operations. It’s critical when performing this forecast that valuers not project historical data forward, and instead perform a new assessment for the new year. Here’s why. Included is a real-world example of a misperformed valuation showing how dramatically this kind of error effects a calculation of net present value.

When preparing a Discounted Cash Flow we need to make a projection/forecast of the future year’s revenues. Then we need to determine the future profit level, capital expenditures,

depreciation expense, changes in working capital and changes in long-term debt. This article is limited to issues related to a stub year. It is very common that a valuation needs to be performed on a date other than the company's year end.

When performing a valuation, a projection/forecast is made of the future months or years of operations, the historical financial information is not projected/ forecasted. This means that a partial year of data will be projected/forecasted for the first period of the projection/forecast. It is critical to take this into consideration. The following table shows a projection/forecast for a company that has a month ending in May and a calendar year end.

| | Annualized 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Term 2017 |
|---|--------------------|---------|---------|---------|-----------|-----------|-----------|--------------|
| After Tax Cash Flow | 892,830 | 924,429 | 957,135 | 990,984 | 1,026,019 | 1,062,279 | 1,099,809 | 1,127,554 |
| Net Cash Flow Discount Rate | 21.5% | | | | | | | |
| Present Value Factor | | 0.9071 | 0.7464 | 0.6142 | 0.5054 | 0.4158 | 0.3422 | 0.2820 |
| Present Value of Discounted Net Operating Cash Flow to Equity (rounded) | | 838,556 | 714,410 | 608,637 | 518,517 | 441,736 | 376,321 | 2,027,406 |

The revenues for 2010 have been annualized using the May 31 year end. There are four issues related to this forecast. First, the stub year was not taken into consideration and a full twelve months of revenues was forecasted. Second, the forecasted revenues were not considered in the present value calculation. Third, the present value calculation started in 2011, which is shifted to the right by one year. This makes all of the net present value calculations incorrect. Fourth, the mid-year convention was used to determine the present value factors. As a result of the shift in years, the mid-year convention for each year is incorrect.

The table below shows how the revenues should be adjusted for the stub year and the correct periods used for the mid-term convention.

| | Annualized 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Term 2017 |
|---|--------------------|----------|----------|----------|-----------|-----------|-----------|--------------|
| 2010 at 7/12 of the year | 520,818 | 924,429 | 957,135 | 990,984 | 1,026,019 | 1,062,279 | 1,099,809 | 1,127,554 |
| Net Cash Flow Discount Rate | 21.5% | | | | | | | |
| Present Value Factor | 0.907218 | 0.746682 | 0.614553 | 0.505805 | 0.416300 | 0.342634 | 0.282003 | 0.232101 |
| Present Value of Discounted Net Operating Cash Flow to Equity (rounded) | 472,495 | 690,254 | 588,210 | 501,245 | 427,132 | 363,973 | 310,149 | 261,706 |
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Forecasting future revenues and using the Discounted Cash Flows is a fairly complex. The valuator should have a thorough understanding of how to apply the various techniques used in such a forecast. This type of error can be embarrassing if uncovered in a deposition or at trial.

¹Hitchner, James R. *Financial Valuation Applications and Models*, John Wiley & Sons, Inc., Second Edition, © 2006, p. 123 - 125.