

ADJUSTING ANALYST FORECASTS

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1. Overview

It is useful to take a close look at forecasts because forecasts drive value. This spreadsheet examines analyst forecasts of sales and EPS for the forthcoming two years because they are readily available. These forecasts have two well-known characteristics (i) the growth in EPS_2 vs. EPS_1 is typically too optimistic and (ii) the EPS growth generally exceeds sales growth. The difference is probably the largest for firms with forecasted stock buybacks, but it may be the case that the difference is explained by risk too. These differential biases make it difficult to compare forecasts across firms. This comparability problem is exacerbated by differences in dividend payouts across firms because of earnings foregone in Y2 on dividends paid in Y1.

With the above facts as background, the spreadsheet does the following:

- It estimates the after tax enterprise profit margin for the upcoming two years. This requires forecasts of shares outstanding and net after tax financial expense. This step is necessary because enterprise value is based on enterprise profit after taxes but analyst summary forecasts provide only net income data.
- It adjusts the forecast of EPS for Y2 under the assumption that there is no margin expansion. Typically, the Y2 margin is greater than the Y1 margin suggesting an upward bias in the Y2 figure.
- It makes earnings growth comparable across firms with different dividend payouts. This requires increasing Y2 earnings by Y1 dividends times the rate of return that could have been earned on Y1 dividends.

2. Detailed steps to be read with the spreadsheet

Current year is Y0. The next two years are denoted by Y1 and Y2, respectively.

2.1. Analyst forecasts of sales and EPS

1. Input: Forecasts of sales for the forthcoming two years
2. Input: Forecasts of earnings per share for the forthcoming two years

2.2. Required forecasts of interest and taxes

3. Input: Number of shares outstanding is needed to convert per share amounts to dollar totals.
 - 3.1. As a practical matter, you can generally set future number of shares outstanding to the current number of shares outstanding unless the firm has known plans to buy back or issue shares.
4. Input: Net interest expense
 - 4.1. As a practical matter, you can generally set future net interest expense to the current net interest expense. Refining the forecast of net interest expense via capital structure assumptions will generally not be material to justify the effort.
5. Input: Tax rate
 - 5.1. As a practical matter, you can generally set this to the current year tax rate after removing the effect of non-recurring items.

2.3. Deleveraging analyst forecasts to derive enterprise profit

6. Start with net income = $EPS * \text{number of shares outstanding}$
7. Add back interest expense, net of tax = $\text{interest expense} * (1 - \text{tax rate})$

8. = Enterprise profit, net of tax implied by the analyst EPS forecasts

2.4. Comparing enterprise and net margins

9. Enterprise profit margin after tax = Enterprise profit after tax [EPAT]/Sales

10. Net margin = Net income/Sales. The relative effect of financial activities becomes visible by comparing the net margin to the enterprise margin.

2.5. Comparing sales growth and earnings growth

11. We start with sales growth from Y1 to Y2.

12. We then compare it with corresponding EPS growth. EPS growth differs from sales growth because of two reasons:

12.1. Enterprise margin expansion: Analysts often forecast an improvement in enterprise margins.

12.2. Interest expense does not grow in direct proportion to sales.

2.6. Dissecting growth: Earnings growth without enterprise margin expansion

To extract the effect of enterprise margin expansion, we recompute enterprise profit by assuming that the enterprise margin remains unchanged from Y1 to Y2.

13. Start with sales in Y2.

14. Assume that the enterprise margin, after tax will remain unchanged from Y1.

15. Multiply sales by enterprise margin, after tax from Y1 to derive enterprise profit, after tax.

16. Subtract the after-tax interest expense computed earlier.

17. This gives us the re-estimated net income without enterprise margin expansion.

18. Divide by the number of shares outstanding in Y2 to derive the new EPS_2 .

19. Compute the revised growth rate in EPS_2 . This should be compared with EPS_2 growth rate without adjustments.

2.7. Dissecting growth: Earnings growth adjusted for dividend payout

Another factor affecting earnings growth is dividend payout. Dividend payout reduces reinvestment and thereby reduces earnings growth.

20. Input: Discount factor or the opportunity cost of equity.

21. Input: Dividend payout ratio for Y1, extrapolated from the past record

22. Dividends per share for Y1 = $EPS_1 * \text{Payout ratio}$

23. We assume that DPS_1 could be reinvested by the firm to yield a return at the rate of cost of equity. Thus, the earnings foregone due to DPS_1 equal $DPS_1 * \text{Cost of equity}$.

24. Adjusted $EPS_2 = EPS_2 + \text{Earnings foregone on } DPS_1$

25. We compute the revised growth rate in EPS_2 .