EXTRACTING RECURRING ENTERPRISE INCOME

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1. Overview

There are three core drivers of enterprise cash flows – enterprise profit margin after taxes, the net enterprise asset intensity, and the sales growth. These drivers were brought forward in the FSA1 and VAL1. FSA1 provides a first cut computation of the profit margin and asset intensity. This spreadsheet takes a closer look at the profit margin because the forecasted profit margin tends to be the most sensitive to an evaluation of the current financial statements. This spreadsheet underscores this aspect by doing the following:

- It computes primary recurring enterprise profit margin after tax by categorizing income statement items into three sets:

  ◆ Separate enterprise items from financing items.

  ◆ Separate recurring enterprise items from non-recurring enterprise items.

  ◆ Separate primary recurring enterprise items from secondary recurring enterprise items. Primary items such as COGS are those that are driven by sales while secondary items such as equity income are those that are not driven by sales.

- It identifies the inputs necessary to estimate tax rates to compute the most important financial statistic: Recurring primary enterprise profit margin after taxes.

- It also provides several key statistics that aid the forecasting of value drivers such as primary net enterprise assets relative to sales, primary ROIC, and past growth rates, especially sales growth.

The spreadsheet uses three years of income statements to conform to the standard practice of companies providing three years of income statements. However, income statements alone do not suffice as they do not contain the details necessary to identifying non-recurring items and secondary items; reading the entire financial report is often necessary.

2. Detailed steps to be read with the spreadsheet

Reminder: Lines that are likely to be blank are shaded gray.

2.1. Recurring primary enterprise items

1. Input: Revenues.

   1.1. Judgment is required to determine if one should analyze components of revenues. For example, one may want to remove interest income of finance subsidiaries from revenues and expenses of finance subsidiaries from expenses. A detailed discussion of these issues is beyond the scope of this document.

   1.2. One can also debate whether the historical revenues are abnormally high or low due to an economic boom or bust. However, such analysis is beyond the scope of this spreadsheet.

2. Input: Cost of sales. These costs are more likely to be proportional to sales than other costs such as selling, general, and administrative costs, and R&D costs.

   2.1. One should exclude non-recurring items such as write-downs of inventory and PP&E. The details of such items are often in the notes. See the list at the bottom of the spreadsheet.

3. Input: Selling, general, and administrative expenses are period costs and hence may not be as well matched to sales as are cost of sales.

3.1. Once again, non-recurring items should be excluded. See the list at the bottom of the spreadsheet.

4. Input: R&D costs. There is a long delay between incurrence of R&D costs and revenue generated. Because R&D costs are immediately expensed, there is a timing mismatch between R&D costs and revenues.

4.1. Once again, non-recurring items should be excluded. See the list at the bottom of the spreadsheet.

5. Other: If some items have not been included in the line items above, they should be listed here.

6. Subtotal: Recurring primary enterprise profit before tax = Revenues – Recurring primary expenses.

2.2. Recurring secondary enterprise items

7. Input: Income (loss) from equity investments [Income: positive, Loss: Negative]: Equity income is the share of net income of affiliates. Although recurring, it is unlikely to be proportional to a company's sales.

8. Other items

9. Subtotal: Recurring secondary enterprise income

2.3. Tax rates

- Income filed with the tax authorities as per the tax rules is called taxable income.

- Taxable income is multiplied by the statutory tax rate to arrive at the tax bill for the year.

- Income prepared according to the accounting rules is called earnings before taxes (EBT).

- Due to differences in tax and accounting rules, there are permanent (non-reversing) and temporary (reversing) differences between EBT and taxable income.

- Current tax expense = tax bill. [Advanced point that can be skipped. In reality, current tax expense = tax bill + adjustments for tax reserves and stock options]

- Deferred tax expense = Temporary differences * statutory tax rate

- Total tax expense = Current tax expense + Deferred tax expense

- Effective tax rate = Total tax expense/EBT. Effective tax rate differs from statutory tax rate due to permanent differences and other advanced items such as tax reserves and valuation allowances.

- Items that make the effective tax rate different from the statutory tax rate are shown in the tax rate reconciliation table in the notes. These items may be listed in dollars or as a percentage. One need not consider the effect of the following three types of items on tax rates here:

  - non-recurring items such as goodwill impairments, tax contingencies, and valuation allowances

  - financial items such as tax exempt interest income

  - secondary items such as equity income

- Interest expense is generally tax deductible. The tax saving due to interest is referred to as the "tax shield", and is equal to interest expense * tax rate. Due to the tax shield, the after tax interest rate = Interest rate * (1- tax rate). Typically, one assumes that interest is taxed at the statutory rate.

- Since taxes are assessed on overall income, not individual line items of income, any tax allocation scheme in inherently somewhat arbitrary. We need to derive the effective tax rate after removing non-recurring items and financial items. A simpler alternative is to use the management guidance regarding future tax rates.

10. Input: Tax rate for recurring primary enterprise profit

11. Input: Tax rate for recurring secondary income. For example, equity income is subject to dividends received deduction and is taxed at lower rates.

2.4.   After-tax enterprise profits [EPAT]

12. Recurring primary enterprise profit after tax = Recurring primary enterprise profit before tax * (1-recurring primary tax rate). This is the key after-tax bottom-line.

13. Recurring secondary enterprise profit after tax = Recurring secondary enterprise profit before tax * (1-recurring secondary tax rate).

2.5.   Net enterprise assets [NEA]

14. Input: Net enterprise assets related to primary activities

    14.1. One should exclude secondary items such as equity investments from net enterprise assets.

2.6.   Key metrics: Margins, net asset turnover, ROIC, and growth rates

2.6.1.   Margins

15. Recurring primary enterprise profit margin after tax

16. Average margin = Sum of 3-yr profits/Sum of 3-yr sales

2.6.2.   Net enterprise asset intensity [1/turnover]

17. Ending primary net enterprise assets as percent of sales

2.6.3.   Return on invested capital [ROIC]

18. ROIC = Enterprise profit after tax/Ending net enterprise assets

2.6.4.   Growth rates

19. Growth rate of sales

20. Growth rate of primary net enterprise assets

21. Growth rate of recurring primary enterprise profit after tax

22. Growth rate of recurring secondary enterprise profit after tax

3. Optional items: Non-recurring and financial items

This section has the following goal: To show how to extract the data necessary for valuation from the historical income statements. We achieve this goal by showing how to extract recurring enterprise income after tax by splitting the income statement into the following groups:

	Enterprise: Primary	Enterprise: Secondary	Financial
Recurring	Related to sales	Not-related to sales	Related to net financial liabilities
Non-recurring	Unpredictable	Unpredictable	Unpredictable

- Enterprise activities versus financial activities: Separating enterprise income from financial income allows us to focus on the value creating enterprise activities without being distracted by value neutral financial activities.

- Recurring activities versus non-recurring activities: Recurring income has a PE multiple of greater than one. The higher the expected growth, the higher the multiple. In contrast, non-recurring income has no valuation impact beyond the current period, and is not relevant for forecasting.

- Primary enterprise activities versus secondary enterprise activities: Primary enterprise activities are related to revenue generation and should be separated from secondary activities because they have different drivers. Such separation requires judgment as one cannot merely follow the classifications reported by the company. Consider a retailer. If the retailer charges membership fees to its shoppers, then it must be offering discounts to its shoppers to entice them to sign up for membership. Thus, the revenue from membership income interacts with the revenue from sale of products or services, and it should be included in primary revenues. In contrast, a retailer may have occasional revenues from the subleasing extra space in few of its stores. Such income may be regarded as other income.

3.1. Non-recurring secondary enterprise items

23. Input: Loss (gain) on dispositions [loss: positive, gain: negative]

24. Input: Restructuring charges (benefit from reversal) [expense: positive, benefit: negative]

25. Input: Asset impairments [expense: positive]

26. Input: Goodwill impairments [expense: positive]

27. Input: Losses (gain) from sale of equity investments [loss: positive; gain: negative]

28. Input: Impairment losses on equity investments [loss: positive]

29. Input: Mark-to-market losses (gains) on equity investments [loss: positive]

30. Input: Other losses (gains) [loss: positive, gain: negative]

31. Subtotal: Non-recurring enterprise expense (income)

3.2. Recurring financial expense (income)

32. Input: Reported interest expense [Enter as positive.]: It should include interest expense from only financial liabilities. For example, if pension and post-retirement health-care liabilities are included in enterprise liabilities, then their interest accretion expense should be included in operating expenses, and thus the operating income. It should not be included in the interest expense.

33. Input: Reported interest and investment income [Enter as NEGATIVE.]: It should include income from only financial assets. For example, if we include the credit card receivables in enterprise assets, then the interest income from such receivables should be included in primary revenues, and thus the operating income. It should not be included in the interest income.

34. Subtotal: Net recurring financial expense (income), pre-tax

3.3. Non-recurring financial expense (income)

35. Input: Reported losses (gains) due to bond buybacks [loss: positive, gain: negative]: A non-recurring item that is likely to be missing. Hence, it is shaded gray.

36. Input: Reported recognized losses (gains) on financial investments [loss: positive, gain: negative]: A non-recurring item that is likely to be missing. Hence, it is shaded gray.

37. Subtotal: Net non-recurring financial expense (income), pre-tax

4. Summary of questions addressed by spreadsheet

The spreadsheet provides historical data to aid forecasting of the three value drivers. However, it does not specify a forecasting algorithm. The forecasts developed using this data should be then plugged into VAL1 to check their reasonableness. The questions below pertain to each value driver.

1. Based on the track record, what is a reasonable estimate of the forthcoming enterprise profit margin, after taxes? To what extent do non-recurring items affect this forecast?

2.   What does the firm's track record tell us about the expected growth in sales? To what extent should the trend the past three years be extrapolated? Should the stock be viewed as a "growth stock"?

3.   Can the most recent sales to net enterprise asset ratio serve as the appropriate starting point when one forecasts the ratio for future periods? Alternatively, should one consider an average of the ratio for the past three years?