OFCF and NOPAT rather than FFCF and NI

Some practitioners and textbooks discuss net operating profit after tax (NOPAT) and operating free cash flow (OFCF), defined as:

$$NOPAT = (Rev - COGS - FC - Depr - \mathbf{0}).(1 - t_c)$$

$$OFCF = NOPAT + Depr - CapEx\ -\ \Delta NOWC + \mathbf{0}$$

These formulas are the same as the NI and FFCF formulas, but with interest expense set to zero (**IntExp=0**).

$$NI = (Rev - COGS - FC - Depr - \boldsymbol{IntExp}).(1 - t_c) = NPAT$$

$$FFCF = NI + Depr - CapEx\ -\ \Delta NOWC + \boldsymbol{IntExp}$$

Formulas: NOPAT & OFCF vs NI & FFCF

$$NOPAT = (Rev - COGS - FC - Depr - \mathbf{0}).(1 - t_c)$$

$$= NI + \boldsymbol{IntExp}.(1 - t_c)$$

Substitute into OFCF formula to see relationship with FFCF:

$$OFCF = NOPAT + Depr - CapEx - \Delta NOWC + \mathbf{0}$$

$$= NI + Depr - CapEx - \Delta NOWC + \boldsymbol{IntExp}.(1 - t_c)$$

$$= FFCF - \boldsymbol{IntExp}.t_c$$

So the OFCF equals the FFCF, but without the benefit of the interest tax shield per year: $\boldsymbol{IntExp}.t_c$

EBIT and NI

Earnings before interest and tax (EBIT) is sometimes used to construct similar formulas.

$$EBIT = Rev - COGS - FC - Depr$$

$$NI = (Rev - COGS - FC - Depr - IntExp).(1 - t_c)$$

$$NI = (\qquad\qquad EBIT \qquad\qquad - IntExp).(1 - t_c)$$

Let's check that it works for Just Group:

$$EBIT = Rev - COGS - Depr$$

$$= 822 - 717 - 24 = 81$$

$$NI = (EBIT - IntExp).(1 - t_c)$$

$$= (\ 81 - 11\ ) \times (1 - 0.3) = 49$$

Negative Net Income, Taxes and Carry-Forward Losses

$$\boldsymbol{NI = (Rev - COGS - FC - Depr - IntExp).(1 - t_c)}$$

The Net Income (NI) equation above works for positive before-tax income: $\boldsymbol{Rev - COGS - FC - Depr - IntExp} > 0$.

But if a business's NI is negative then it's actually a loss.

The loss is not reduced by one minus the tax rate $\boldsymbol{(1 - t_c)}$ unless the loss can be deducted from another part of the business's profit.

If this is not the case, then the loss will be a 'carry-forward tax loss' and can be offset against any future profits, causing a time difference of when the tax saving is received.